Dipartimento di Scienze Politiche *Geografia Politica*

European Union Energy Security Strategy

The Consequences of the 2004/7 Enlargements and the Role of Natural Gas in Russia/EU Relations

RELATORE

Prof. Alfonso Giordano

CANDIDATO

Giulio Bonechi

Matr. 628392

CORRELATORE

Prof. Angelo Taraborrelli

Prof. Oleg Pichkov

ANNO ACCADEMICO

2016/2017

Index

Introduction

In order to understand and interpret the political relationship between the European Union and Russia, it is necessary to analyze their respective strategies towards the geographical-cultural spaces that surround them.

The European Union opted for an inclusive strategy of enlargement towards East that brought new Member States, once part of the Soviet Union, into the European Union. The 2004/2007 enlargements admitted, as new Member States, countries that presented problems related to the "*post-bipolar*"[1] phase. These enlargements created divergences both at the internal and external spheres of the Union. In particular, the energy security strategy of the Union has been strongly altered markedly in relation to Russia as an energy supplier.

The 2004-07 enlargements brought differences between West Member States and the Central and Eastern Europe Countries (CEE) over the development of their energy infrastructures and grid interconnectedness. Moreover, the enlargements brought within the European Union a different perception of the Russian Federation as a reliable energy supplier. Some of the "*newly*" Member States are almost entirely dependent on Russia from its energy supply and therefore they are more vulnerable to possible disruptions of Russian natural gas imports.

The question that this dissertation intends to answer is to what extent the European Union's energy security strategy towards Russia has changed after the entrance in the Union of the CEE countries. The strategic interests of the various Member States vary considerably in terms of energy priorities creating de facto a dichotomy of interests between those who seek to reduce their energy dependence from Russia and those who on the contrary are strengthening their energy partnership.

[1] Giordano A. (2009). *Relazioni UE-Russia, energia e politica internazionale*, in Europae – Quadrimestrale di Affari Europei, n. 2, pp. 61-75. Soveria Mannelli: Rubbettino Editore

This dissertation aims to dissert about the changes in the energy security strategy of the European Union and also to predict – through different energy scenarios - what in the long-run would be the role of natural gas in Russia/EU relations. The path towards a drastic reduction of fossil fuels consumption within 2050 endorsed by the Union, if fully achieved, can result in a drastic reduction of oil and gas consumptions, which eventually would strongly affect the economy of Russia.

In order to answer these questions I divided my work into three main chapters, providing at the beginning the theoretical background in order to analyze energy security. I took into account the most popular definitions of "*energy security*", studying their different interpretations and applications in the European Union and in Russia.

The second part of the thesis focuses instead on contemporary Russian foreign policy and its political and energy relations with Ukraine. This chapter highlights the strategic importance for Russia to maintain a sphere of influence towards the geographical-cultural space that surrounds the Federation. Moreover, I will analyze the Ukrainian gas crises of 2006, 2009, and the most recent Ukrainian crisis of 2014. These events are extremely important in order to understand how the European Eastern enlargements have drastically affected the European Union's energy security.

Finally, the last chapter provides for a broader geopolitical explanation of the current European Union energy scenario and gives much attention to its main non-EU energy suppliers. In fact, in this chapter I will take into account the different strategies of energy diversification that are implemented in order to decrease the EU dependency from Russia's energy exports. The chapter helps to understand the complex relation that exists between the EU and Russia and their "*asymmetric interdependency*", with the aim to demonstrate that "*EU-Russia energy relations are*

based not on the EU-Russia interdependence, but on a set of asymmetrical interdependencies between Russia and individual Member States"[2].

To sum up, this dissertation investigates mainly the role of natural gas due to its strong implications in terms of geopolitical analyses. After demonstrating how European energy security has changed after the Eastern enlargements, I will analyze the possible future role that natural gas will play in Russia/EU relations. Using the data developed by the "*International Energy Agency*", I will also demonstrate what are the most likely outcomes in the future energy scenario up to 2050.

[2] Gradziuk A., Wyciszkiewicz E. (2009), *Energy Security and Climate Change: Double Challenge for Policy Makers,* Warsaw: The Polish Institute of International Affairs.

1. Energy Security

1.1. Energy Security definition

1.1.1. Energy Security according to the IEA

In order to understand what are the main challenges concerning energy security in the European Union and, therefore, its strict relation with Russia, we must first address the question of what is energy security and what is its definition. The study and understanding of energy security cannot be detached from the analyses of political crises in energy supplier or transit countries, the development in new technologies and the implementation of new policies that aim at reducing green gas emissions.

Even though energy security is becoming more popular in the recent political debate due to the most relevant crises that are occurring in Europe, its definition and has been widely analysed. The "*International Energy Agency*" defines energy security as:

> "*the uninterrupted availability of energy sources at an affordable price. Energy security has many aspects: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-term energy security focuses on the ability of the energy system to react promptly to sudden changes in the supply-demand balance*" [3]

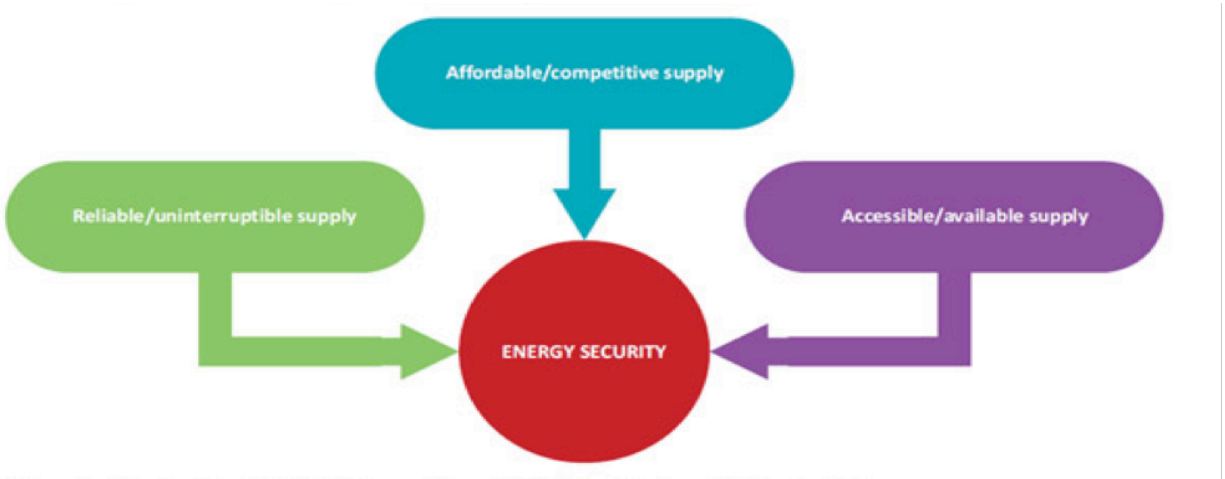
According to this definition, what characterized energy security, and therefore its main characteristics, is the importance of constant and safety energy supply. This definition is in line with what is stated in the "communication from the Commission

[3] The International Energy Agency (2017) "What is energy security?", Internet: https://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/ (accessed in date 02 March 2017).

to the European Parliament and the Council of 28.05.2014 on European Union's energy security". "*The EU has an overriding priority: to ensure that the best possible preparation and planning improve resilience to sudden disruptions in energy supplies, that strategic infrastructures are protected and that the most vulnerable Member States are collectively supported*"[4].

Following those guidelines, the IEA has developed a scheme in order to better understand energy security stressing the importance of reliability, affordability and acceptability. What makes a country stable or secure in terms of energy security is a stable and uninterrupted supply of energy resources. Logically, the same argument can be applied to a country with a high storage of natural resources that enables it to be independent and therefore with high-energy security. On the contrary, a country that is geographically located next to an unreliable transit country and has difficulties in purse energy supply diversification has a lower level of energy security.

Fig 1: "Defining Energy Security - 2017"



Source: International Energy Agency

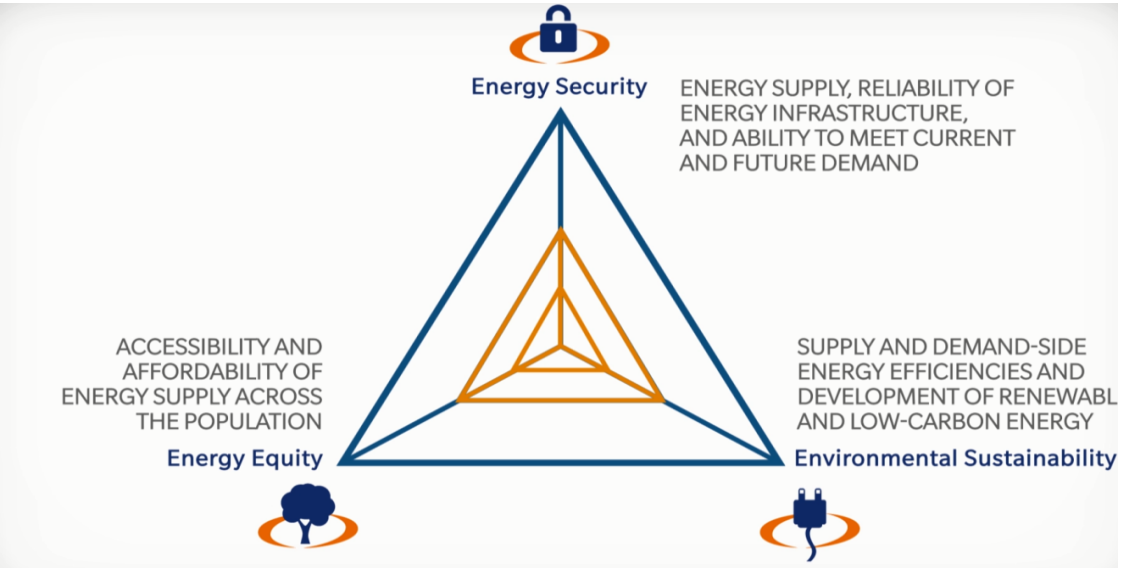
[4] European Commission (2014), *European Energy Security Strategy,* Communication from the Commission to the European Parliament and the Council, May, Brussels.

1.1.2. The "Energy Trilemma Index"

Another way of studying energy security is analyzing its correlation to energy sustainability. The World Energy Council (WEC) developed an index that ranks countries according to their energy security, energy equity and environmental sustainability, and it serves to look at their ability to provide efficient energy policies.

It is called "energy trilemma index"[5] and provides for different definition of energy security compared to the one of the IEA. In this index, countries are analyzed not just by their ability to access stable sources of energies or on their quantity of natural resources, but also on the effectiveness of their energy policies and thus the "*accessibility and affordability of energy supply across the population and the development of renewable and low-carbon energy*"[6].

Fig 2: "Energy Trilemma Index - 2016"



Source: World Energy Council

However, for what regards the study of this dissertation and its main scope,

[5] World Energy Council (2016), "World Energy Trilemma Index – 2016: Benchmarking the Sustainability of National Energy System", Internet: https://www.worldenergy.org/publications/2016/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems/ (accessed in date 15 March 2017).

[6] World Energy Council (2016), "World Energy Trilemma Index – 2016: Benchmarking the Sustainability of National Energy System", Internet: https://www.worldenergy.org/publications/2016/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems/ (accessed in date 15 March 2017).

looking at energy security through the "energy trilemma index" can be misleading. Balancing the 3 main indicators in an equal way, thus giving same weight of energy security to energy equity and environmental sustainability, lead us not to concentrate on energy security on itself. Evidences of this misleading unbalance are visible in the application of the "trilemma index" to a typical energy provider country such as the Russian Federation.

Fig 3: "The Energy Trilemma Index Applied to the Russian Federation - 2016"

	2014	2015	2016	Trend	Score
Overall rank and balance score	50	48	45	▶	ABD
Energy performance					
Energy security	11	8	6	▶	A
Energy equity	46	42	42	▶	B
Environmental sustainability	117	117	116	▶	D
Contextual performance	53	51	48	▶	

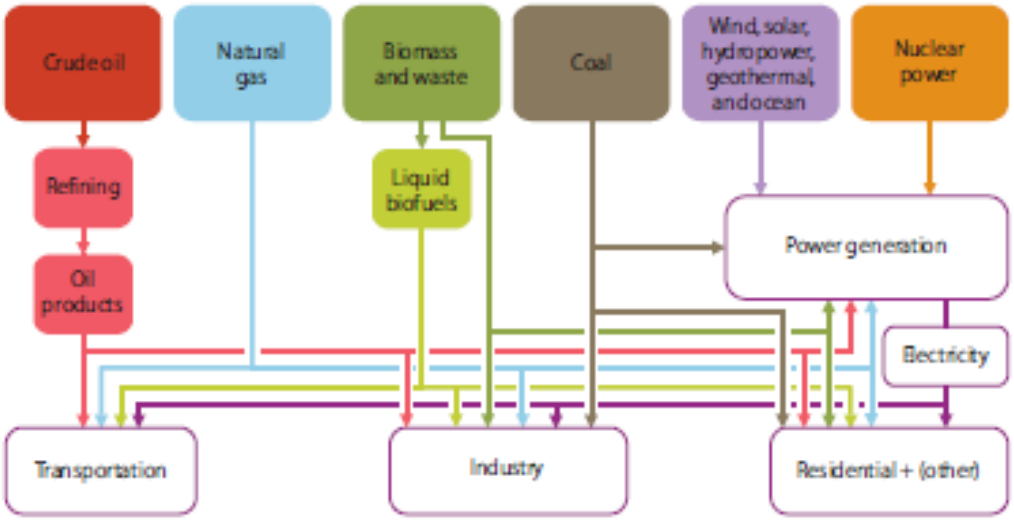
Source: World Energy Council

The figure shows that Russia occupies the 45th position within the Index, highly damaged by the lows scores of environmental sustainability and energy equity. However, due to its huge amount of oil and gas reserves, and its developed internal system of grid interconnectors, the Federation achieves the 6th position for what regards "energy security".

1.1.3. Energy Security at the European level

In the Communication staff working document of the 2nd July 2014, concerning an in-depth study of European Energy Security, the concept of security has to be understand differently according to the place in the energy procurement process a country occupies. "The energy system is a complex structure, where aspects of 'security' differ according to the actors involved at each point in the chain"[7]. Analyzed with the help of a scheme it is possible to divide this energy system in a combination of fuels, transformation and consumption:

Fig 4: "Energy System Approach - 2014"



Source: European Commission

The scheme is intended to help the policy makers to have a broader understanding of the energy system, identifying its strengths and weaknesses, and consequently to develop the appropriate strategies in order to decrease the vulnerability from possible energy disruptions.[8]

The role of the policy-maker is first to identify in the energy scheme where are the strengths and weaknesses of his/her country energy position, and after to

[7] European Commission (2014), *In-Depth Study of European Energy Security,* Commission Staff Working Document, July, Brussels.
[8] Jewell J. (2011), "The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels", *Working Paper,* OECD/IEA.

understand if the risks are more related to a domestic or external factor of energy security.

Safe and stable energy supply is affected by many different variables, sometimes exogenous like prices fluctuations, or endogenous, like disputes over the contracts.

The receiving country's ability to deal with energy security matters relies on his capacity to respond to disruptions by substituting the supplies, diversifying the energy consumption mix, and increasing the investments in supply points like ports for LNG facilitators, fuel routes or new pipelines[9]. Those are usually the main elements regarding energy security short/medium term responses in order to reduce possible risks and improve safeguarding.

1.1.4. "Model of Short-term Energy Security"

The International Energy Agency developed a model that helps to give a broader understanding of the dimensions concerning the short-term responses to matters of energy security. The "Model of short-term energy security" (MOSES) has been designed in order to "*defines countries' energy security profiles and group together countries with similar combinations of risks and resilience factors*"[10]. It can be used as a simplified model in order to study national energy security giving a general framework that needs to be integrated with the main indicators of the relevant country into analyze. Moreover, "*MOSES allows for comparison of national energy security challenges in order to identify common strategies and responses and facilitate exchanges of information and policy experience among countries*"[11].

The main characteristic of MOSES is that it focuses on short-term energy security ("*the ability of the energy system to react promptly to sudden changes in*

[9] Goldthau A, Hoxtell W. (2012), "The Impact of Shale Gas on European Energy Security", *GPPi Policy Paper No . 14,* February, Brussels: European Commission.
[10] Jewell J. (2011), "The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels", *Working Paper,* OECD/IEA.
[11] Jewell J. (2011), "The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels", *Working Paper,* OECD/IEA.

supply and demand"[12]) identifying a set of parameters for different level of risks as well as for the capacity of a country to deal with different level of disruptions. The model than serves as a tool composed by a set of parameters that have the aim of identifying and collocating the country under analyze within a certain level of security.

In order to identify the exposure to risk of a country and its resilience, MOSES addresses four dimensions of energy security, which include a mix of external and internal factors. In particular, the external ones refer to the imported energy, whereas the domestic ones are related to the level of production and the capacity of energy distribution within the national boundaries.

The International Energy Agency developed a table where are divided the dimensions of energy security addressed in MOSES.

Table 1: "Dimensions of energy security addressed in MOSES"

	Risk	**Resilience**
External	**External Risks:** risks associated with potential disruptions of energy imports	**External Resilience:** ability to respond to disruptions of energy imports by substituting with other suppliers and supply routes
Internal	**Domestic Risks:** risks arising in connection with domestic production and transformation of energy	**Internal Resilience:** domestic ability to respond to disruptions in energy supply such as fuel stocks

Source: IEA MOSES working paper 2011

The model than analyzes the above four aspects of energy security using different indicators according to the level of risk or adequacy of resilience for the different sources of energy and fuels in the national energy system.

[12] Filho L. W., Voudouris V. (2013), *Global Energy Policy and Security*, Londra: Springer.

Table 2: "Table of Risk and Resilience indicators"

Energy Source	Dimension		Indicator
Crude Oil	**External**	**Risk.**	Net import dependece
			Political stability of suppliers
		Res.	Entry Points (Ports and Pipelines)
			Diversity of suppliers
	Domestic	**Risk.**	Proportion of offshore production
			Volatility of domestic production
		Res.	Average storage level
Oil products	**External**	**Risk.**	Oil product net import dependence
		Res.	Diversity of suppliers
			Entry Points (Ports, Rivers and Pipelines)
	Domestic	**Risk.**	Number of refiniers
		Res.	Flexibility of refining infrastructure
			Avergae stock level
Natural Gas	**External**	**Risk.**	Net import dependece
			Political stability of suppliers
		Res.	Entry Points (LNG Ports and Pipelines)
			Diversity of suppliers
	Domestic	**Risk.**	Proportion of offshore production
		Res.	Daily send-out capacity from underground and LNG storage
			Natural gas intesity
Coal	**External**	**Risk.**	Net import dependece
			Political stability of suppliers
		Res.	Entry Points (Ports and Railways)
			Diversity of suppliers
	Domestic	**Risk.**	Proportion of mining that is underground

Source: IEA, OECD, World Bank, MOSES

To conclude, energy security can be studied from an economic point of view, and therefore defined differently from the typical definitions that focus on the "guaranteeing a stable supply of energy at an affordable price"[13]. Looking from this perspective, energy security refers "to the loss of welfare that may occur as the result of a change in price or availability of energy"[14]. Therefore, the focus is on loss of wealth and on a more internal aspect of energy availability than the typical infra states relations.

[13] Proedrou F. (2016), *EU Energy Security in the Gas Sector: Evolving Dynamics, Policy Dilemmas and Prospects,* New York: Routledge.
[14] Manzano B, Rey L. (2012), "The Welfare Cost of Energy Insecurity", *WP FA*, July, Alcoa Foundation.

From a political point of view, ensuring stable supply usually means that the energy flows have to be guaranteed constantly and at an affordable price, whereas "*from an economic viewpoint, the concept of security of supply is related to the efficiency of providing energy to consumers*"[15]. The interstate capacity distributions and the easiness for the access to energy by the population are peculiar elements for a clear and comprehensive understanding of energy security.

[15] Mulder M, Cate A, Zwart G. (2007), "The Economics of Promoting Security of Energy Supply", *EIB Papers Vol. 12 N. 2,* Luxembourg: European Investment Bank.

1.2. Energy Security in the European Union

Since the beginning of the new millennium energy security policy became more and more important for the European Union. Due to its high level of energy dependency from non-EU countries, developing a clear energy security strategy is fundamental in order to challenge future risks. The majority of the Member States are energy importing countries and their main priorities are to ensure stable and constant supply.

The production of primary energy in the EU-28 in 2014 amounted just to 771 million tonnes of oil equivalent (Mtoe), with a downward tendency. "*When viewed over a longer period, the production of primary energy in the EU-28 was 17.3 % lower in 2014 than it had been a decade earlier*"[16]. This downturn made the EU year-by-year more dependent on primary energy imports in order to satisfy the demand of the Member States. "*The EU-28's imports of primary energy exceeded exports by some 881 Mtoe in 2014*"[17]. If in 2004 the only net energy exporter Member State was Denmark, in 2013 its energy imports exceeded the exports at the point that there were no longer any net exporters of energy in the European Union. "Relative to population size, the largest net importers in 2014 were Luxembourg, Malta and Belgium"[18].

[16] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).
[17] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).
[18] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).

Table 3: "Net imports of primary energy, EU 28, 2004-2014"

	(thousand tonnes of oil equivalent)					
	2004	2006	2008	2010	2012	2014
EU-28 (1)	939 420	1 013 992	1 014 220	954 191	923 010	880 892
Belgium	53 623	52 793	55 638	53 592	46 187	47 070
Bulgaria	9 175	9 352	10 362	7 078	6 600	6 147
Czech Republic	11 634	12 873	12 677	11 447	10 844	12 590
Denmark	-9 835	-7 822	-4 214	-3 253	-473	2 259
Germany	211 021	215 396	207 089	201 690	196 766	194 207
Estonia	1 657	1 664	1 530	867	1 110	625
Ireland	13 823	14 309	14 321	13 212	11 784	11 683
Greece	24 775	24 911	25 595	21 828	19 873	17 404
Spain	115 141	123 898	122 285	106 337	99 662	90 661
France (2)	141 295	141 826	138 988	132 143	125 164	115 385
Croatia	4 998	4 771	5 390	4 393	4 338	3 587
Italy	158 893	163 669	156 494	149 460	133 190	116 122
Cyprus	2 442	3 001	3 069	2 944	2 627	2 291
Latvia	3 255	3 308	2 880	2 220	2 692	1 899
Lithuania	4 352	5 381	5 413	5 668	5 797	5 225
Luxembourg (2)	4 609	4 638	4 515	4 505	4 349	4 073
Hungary (2)	15 949	17 207	16 835	14 965	12 220	14 056
Malta	1 903	1 664	1 879	2 362	2 185	2 051
Netherlands	32 016	38 221	34 011	30 139	28 787	30 228
Austria	23 606	24 928	23 603	21 571	21 421	21 537
Poland	13 248	19 011	29 695	31 534	29 912	27 045
Portugal	23 024	22 527	21 643	18 588	18 119	16 262
Romania	11 936	11 920	11 293	7 827	8 017	5 500
Slovenia (3)	3 749	3 828	4 309	3 580	3 631	3 007
Slovakia	12 518	12 048	11 791	11 263	10 045	9 856
Finland	20 536	20 409	19 707	17 868	16 119	16 919
Sweden	19 505	18 983	19 016	19 294	14 749	15 991
United Kingdom	10 575	49 279	58 407	61 071	87 297	87 218

Source: Eurostat - 2014

1.2.1. "Single Energy Market"

The European Union made an attempt to establish a common framework for its energy policies in March 2007 with the "Energy Policy for Europe". The European Commission stressed the importance of facing energy issues together as a Union and not individually as Member States. "*The challenges of climate change, increasing import dependence and higher energy prices are faced by all EU members. Moreover the interdependence of EU Member States in energy, as in many other areas, is increasing – a power failure in one country has immediate effects in others*"[19].

The European Union has therefore developed its energy policy as an integrated approach that aims at achieving three main targets: 1) the security of energy supply, 2) the competitiveness and, 3) the sustainability aspect of energy.

[19] Commission of the European Communities (2007), *An Energy Policy for Europe,* Communication from the Commission to the European Council and the European Parliament, January, Brussels.

The energy policy framework is complemented by the European Union's proposal to create an integrated energy market for electricity and gas between the Member States and the contracting parties. The integrated market has been introduced with the "*Energy Community Treaty (Council Decision 2006/500/EC of 29 May 2006 on the conclusion by the European Community of the Energy Community Treaty)*".

The European Union adopted packages of legislative initiatives in order to favour the liberalisation of the electricity and gas markets. These initiative, which were developed during the 90's, and subsequently known as the "European Union's energy packages". They consist of a series of energy policies that aim at implementing the integrated energy market following green energy targets that aim at reducing the greenhouse gas emissions.

The latest set of legislative initiatives of EU energy market legislation, known as "*the third package*", has been proposed by the European Commission in September 2007 and entered into force on 3 September 2009. The package covers mainly five-macro areas, which are respectively:

- "*unbundling energy suppliers from network operators*";
- "*strengthening the independence of regulators*";
- "*establishment of the Agency for the Cooperation of Energy Regulators (ACER)*";
- "*cross-border cooperation between transmission system operators and the creation of European Networks for Transmission System Operators*";
- "*increased transparency in retail markets to benefit consumers*"[20].

The European Commission annually reports the progress of the integrated markets. The first developments resulted in positive results that affected directly the

[20] European Commission (2017), "Market Legislation", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation (accessed in date 05 April 2017)

European citizens as primary energy consumers, who now have more choices when it comes to picking an energy supplier provider.

The latest report available by the Commission put in evidence the main results achieved by the integrated market and at the same time highlights the further step needed in order to complete it. As for the improvements brought by the market integration, the report shows how the wholesale electricity prices declined by almost one/third since the application of the strategies adopted. Furthermor, for what concern competitiveness, the energy companies are forced by EU law to not "*exclude competitors from access to pipelines or withhold the construction of important infrastructure*"[21]. Finally, other improvements concern the implementation by the European Union on legislation that prevents price manipulation and guarantees fair-trading on the wholesale market.

On the other hand, the internal energy market still require further work in order to be fully completed; especially there is the need of more investments in infrastructures. For what concerns gas, those investments should focus on "*ending the isolation of the Baltic States and diversifying suppliers for countries in Eastern Europe*"[22]. Other investments are instead necessary for the electricity market especially in "*linking the grids of the Iberian Peninsula, the Baltic region, and Ireland and the United Kingdom*"[23].

The latest report available summarizes five main areas that need to be implemented in order to have a completed and functional integrated energy market within the European Union. Those are:

- "*the implementation of the same set of simple, harmonized rules across Europe for electricity infrastructure*";

[21] European Commission (2017), "Single Market Progress Report", *European Commission Energy,* Internet: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report (accessed in date 05 April 2017)

[22] European Commission (2017), "Single Market Progress Report", *European Commission Energy,* Internet: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report (accessed in date 05 April 2017)

[23] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).

- "*government intervention should only happen when secure energy flows cannotbe guaranteed by the market*";
- "*a stronger emphasis on regional cooperation to bring faster results and to better address local needs*";
- "*consumers should become more active players in the energy market (i.e. through smart meters that allow them to monitor and adjust their energy consumption) retail and wholesale markets should be better linked so that lower wholesale prices lead to lower consumer prices*"[24].

1.2.2. 20-20-20 and the Energy Roadmap 2050

Another fundamental aspect of European energy security is the European's energy strategy in the period to 2030. The "*policy framework for climate and energy in the period from 2020 to 2030*" is the policy program developed by the European Commission in which the targets that the EU has to follow in order to achieve a more competitive, secure and sustainable energy within 2030, are stated.

This strategy is part of the broader de-carbonisation energy program known as "*Energy Roadmap 2050*", in which the EU has set a long-term target of "*reducing greenhouse gas emissions by 80-95%*"[25] compared to the 1990 levels.

If those targets will be fully reached we will assist to a drastic reduction of fossil fuels in the energy mix of the European Union. Indirectly, it would follow a drastic reduction of energy imports from external countries, creating the perfect mix of energy security strategy and commitment to green energy values.

The new policy frameworks have been outlined due to the success by the Union in pursuing the goals set up in energy strategy in the period of 2020. Those targets covered three main areas that are respectively:

1) reducing greenhouse gas emissions by at least 20% compared with the level of 1990s;

[24] European Commission (2017), "Single Market Progress Report", *European Commission Energy,* Internet: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report (accessed in date 05 April 2017).

[25] European Commission (2017), "2050 Energy Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy (accessed in date 13/05/2017)

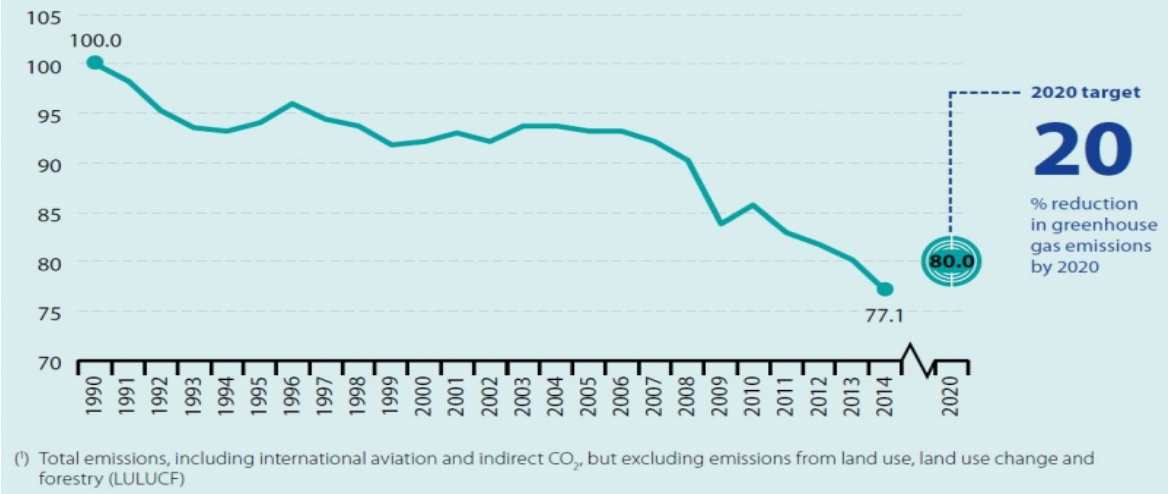
2) increasing by 20% in final energy consumption the share of renewable energies;

3) increasing by 20% in energy efficiency.

Those targets are interrelated and complementary between each other, and commonly known as the "20-20-20"[26].

Regarding the first target, the European Union has already achieved it, having reduced by more than 20% the greenhouse emissions in 2014.

Graph. 1 "Greenhouse Gas Emission, EU-28, 1990-2014"



Source: Eurostat - 2014

It is worth note that the major decrease occurred between 2008-09 (-7.2%) due to the international economic crisis, which reduced industrial production and therefore the demand for energy.

Progress was achieved also through increasing by 20% the share of renewable energies in gross final consumption. The European Union is applying the right measures in order to achieve the target within 2020.

Every two years, EU countries report their progress towards the EU's 2020 renewable energy goals. The key findings of the latest EU report published in 2017 stated that:

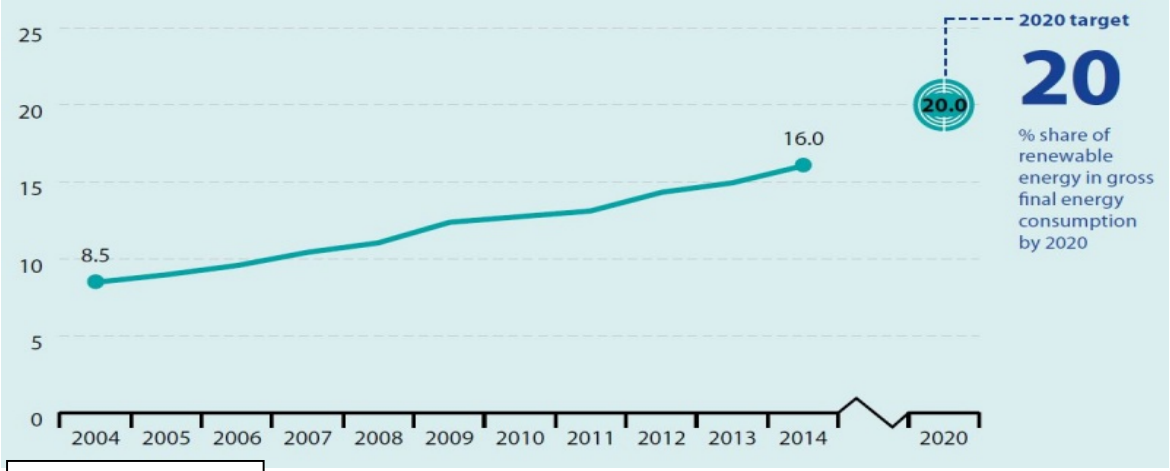
[26] Eurostat (2016), "Europe 2020 Indicators – Climate Change and Energy", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe_2020_indicatorsclimate_change_and_energy#Main_tables (accessed in date 05 April 2017).

- "*In its final energy consumption, the EU as a whole achieved a 16% share of renewable energy in 2014 and an estimated 16.4% share in 2015*";
- "*The vast majority of EU countries are well on track to reach their 2020 binding targets for renewable energy, but all countries will have to continue their efforts to meet these targets*";
- "The transport sector achieved a 6 % share of renewable energy in 2015, so some EU countries will have to intensify their efforts to reach the 10% binding target for transport by 2020"[27]

The EU "Emission Trading System", a system of exchanging emission quotas introduced in 2005, represents the main instrument in order to reduce the consumption of fossil fuels. "*The EU ETS remains the world's biggest emissions trading market, accounting for over three quarters of international carbon trading*"[28]

The increase in share of renewables energies produces positive effects also in the terms of budgetary policies. In fact, they resulted in 2015 in a €16 billion saving[29] from no more importing fossil fuels.

Graph. 2 "Share of Renewable Energies in gross final consumption, EU 28, 2004-14"



Source: Eurostat - 2014

[27] European Commission (2017), "Progress Reports", *European Commission Energy,* Internet: http://ec.europa.eu/energy/node/70 (accessed in date 05 April 2017).
[28] European Commission (2016), "The EU Emission Trading System (EU ETS)", *European Commission Climate Action*, Internet: https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf (accessed in date 19 April 2017)
[29] Eurostat (2016), "Europe 2020 Indicators – Climate Change and Energy", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe_2020_indicatorsclimate_change_and_energy#Main_tables (accessed in date 05 April 2017).

The energy policy framework in the period from 2020 – 2030 it emerged at the same time as the United Nations Climate Change Conference, COP 21, held in Paris in December 2015, where the States participants agreed through non-binding decision to limit the goal warning to less than 2 degrees Celsius[30].

The European Union has fully endorsed the road towards de-carbonization and put itself as the global leader for a sustainable world. It managed to implement an "*energy security strategy, while delivering a low-carbon and competitive energy system, through common action, integrated markets and import diversification*"[31]. Moreover, the clean-energy-transition is supported by other legislative and non-legislative measures, like the most recently package presented on 30 November 2016 with the name of "*Clean Energy for all Europeans*"[32].

1.2.3. The Energy Charter Treaty

Other relevant legal acts that constitute the backbone of the European Union's energy framework are The Energy Charter Treaty and the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects, both signed in 1992 but entered into force only four years later in April 1998.

The Energy Charter Treaty establishes a multilateral framework in order to facilitate cooperation in the energy industry between the signatory countries. The Treaty covers the major aspects connected with commercial energy activities, in particular what concerns energy efficiency, trade and investments. It has legally binding effects and under Article 26 of the Treaty can also solve disputes between two contracting States[33].

Those Charters are particularly interesting when we analyze the energy

[30] United Nation (2015), "UN Climate Change Conference Paris 2015", *Sustainable Development Goals*, Internet: http://www.un.org/sustainabledevelopment/cop21/ (accessed in date 02 April 2017).

[31] European Commission (2014), *A Policy Framework for Climate and Energy in the Period from 2020 - 2030* ,Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, January, Brussels.

[32] European Commission (2016), "Clean Energy for All Europeans – Unlocking Europe's Growth Potential", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_IP-16-4009_en.htm (accessed in date 07 April 2017).

[33] The International Energy Charter (2016), "*Consolidated Energy Charter Treaty*", Internet: http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/ECT-Positive_Annex_W.pdf (accessed in date 25 March 2017).

relations between the EU and the Russian Federation. In fact, the Charters were signed in the 90s, not long after the collapse of the USSR, which resulted in an economic crisis that affected all the countries part of the now called post-Soviet spaces. This crisis had logical spillover effects into the energy market, especially for what concerned the supply of Russian gas coming from transit countries like Ukraine[34].

The Energy Charter Treaty emerged within this complex scenario where major economic conflicts, especially in the energy sector, had to be overcome. The Charter was signed by 52 European and Asian countries. In addition, it was collectively signed by the European Community and Euratom. Only five countries refused to sign the Energy Charter, one of those was Russia, which however accepted provisional application of the Treaty, providing it conformed with its Constitution. However, in 2009 the Russian Federation officially made knwon its decision to pull out of the Energy Charter[35].

1.2.4. European Energy Union

All the above measures, policy frameworks, and treaties are now to be considered as part of a broader energy scenario launched in February 2015 by the Juncker Commission and commonly known as the "European Energy Union". "*Our vision is of an Energy Union where Member States see that they depend on each other to deliver secure energy to their citizens, based on true solidarity and trust, and of an Energy Union that speaks with one voice in global affairs*"[36]. The Energy Union comprises includes all the work done so far on energy related matters within the European Union with the aim of creating the effective flow of energy between Member States regulated by open competitive markets. This ambitious project once completed would not just contribute to the low-carbon objectives already mentioned

[34] Smith K.C. (2004), *Russian Energy Politics in the Baltics, Poland, and Ukraine: a New Stealth Imperialism?,* Washington D.C., CISIS.
[35] Basheska E, Kochenov D. (2007), *Good Neighborliness in the European legal context,* Boston: Brill Nijhoff
[36] European Commission (2015), *A framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Change Policy,* Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment, February, Brussels.

but would also directly bring to EU consumers "*secure, sustainable, competitive, and affordable energy*"[37].

The state of the Energy Union has been publicly reported by the Commission first in November 2015 and then in February 2017. It is one of the top 10 projects identified by the Juncker Commission, and it consist of five main areas: "*energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonizing the economy; and research, innovation and competitiveness*"[38]. The Commission's "Clean Energy for All Europeans", the above mentioned package proposed on 30 November 2016, contains a regulation over the Energy Union Governance with the aim of delivering the Energy Union's targets and ensuring at the same time that they meet the EU's 2030 targets[39].

1.2.5. Common Foreign Energy Policy

For what concerns the external aspect of the European Union's energy security, both the Commission and the European Council have stressed on various occasions the importance of developing real and effective energy diplomacy. In the second report on the state of the Energy Union of February 2017 it is highlighted the importance of energy diplomacy as a tool designed to strengthen the bargain power in energy security matters, and to promote and export the European's low-carbon technologies solutions. "*More generally, energy diplomacy should increase Europe's room-of-maneuver, together with its international partners, in a more volatile world. This is the area where Europe has solid potential to show global leadership*"[40].

However, many European scholars doubt the real possibility to reach this goal.

---

[37] European Commission (2014), *A Policy Framework for Climate and Energy in the Period from 2020 – 2030* , Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, January, Brussels.

[38] European Commission (2015), "Energy Union Factsheet", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_MEMO-15-4485_en.htm (accessed in date 07 April 2017).

[39] European Commission (2016), "Clean Energy for All Europeans – Unlocking Europe's Growth Potential", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_IP-16-4009_en.htm (accessed in date 07 April 2017).

[40] European Commission (2015), "Energy Union Factsheet", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_MEMO-15-4485_en.htm (accessed in date 07 April 2017).

The main obstacles remain the different energy interests and the differences in position and grid interconnectors between the various Member States. Those differences in interests develop bring internal conflict of interest within the Union, damaging the role that the EU could occupy in the international energy scenario. If on one hand, the EU can be taken as a reference point in the fight to climate change, on the other it is a weak player in the strategic game of interests between the contracting players in the energy market.

In order to achieve a common external energy policy, it is essential for the European Union to overcome the contrast of interests between the various Member States. First of all, there is the need to accelerate the internal market union, since the national energy markets of the Member States are still mainly controlled by national companies, which most of the time are supported by the States.

Second, as stated above, there is the problem that comes from the geographical position of some of the Eastern European Member States, which are totally dependent on the supply of energy by Russia and automatically they energy priorities are strongly different from those of Central/Western European Member States.

1.2.6. Energy Security

Due to the vulnerability of those Member States that completely depend on one single energy supplier, the European Union developed its energy security strategy in order to face potential supply disruptions caused by political or economic conflicts, or infrastructure failures. The European Commission released the official document of "Energy Security Strategy" in May 2014, in which are listed the main priorities divided in short, medium and long term objectives. Just to list some of the most important, there are: "*Immediate actions aimed at increasing the EU's capacity to overcome a major disruption; moderating energy demand; diversifying external supplies and related infrastructure*"[41].

The EU carried out energy security stress tests in 2014, in order to understand the maximum length that Member States would sustain in case of an energy

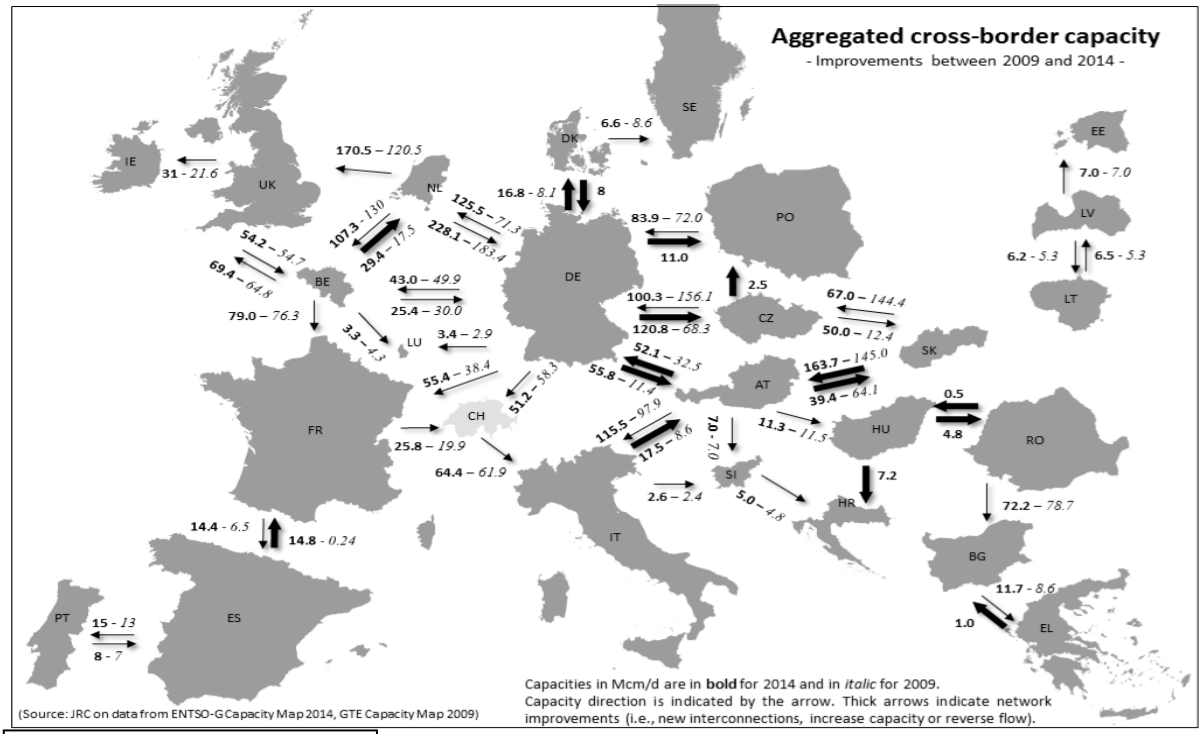
[41] European Commission (2015), *State of the Energy Union 2015,* Commission Staff Working Document on the European Energy Security Strategy, November, Brussels.

disruption During the 2009 Ukraine gas crises "*the necessary amounts of gas were available on the EU internal market but it was physically impossible to ship them to the affected Member States in Eastern Europe*"[42] due to lack of infrastructures.

The two stress tests simulated energy supply disruption from a minimum period of one month to a maximum of six, accordingly to two different possible scenarios: "*a complete halt of Russian gas imports to the EU; a disruption of Russian gas imports through the Ukrainian transit route*"[43]. What emerged from the test is the ability by the Union to sustain a supply disruption of energy for the duration of six months, even though some eastern European countries would be strongly affected.

However, a longer disruption would not be sustainable due to insufficient diversification routes and infrastructures within the Member States, which would compensate for the lack of gas caused by an unexpected disruption[44].

Fig. 5: "Map of aggregated cross-border capacity, improvements between 2009/2014"



Source: European Commission - 2014

[42] European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarityand preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.

[43] European Commission (2017), "Energy Security Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/energy-security-strategy (accessed in date 26 March 2017).

[44] European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.

After the EU Eastern enlargements of 2004 and 2007, the dependency on Russian gas substantially increased, and consequently its vulnerability. Into the Union entered new Member States that used to be part of the Soviet bloc. This new Member States are both politically antagonistic towards Moscow, but at the same time are generally dependent on Russian gas imports.

This enlargement had the effect of deepening EU dependence over Russian gas, while expanding European influence over former Soviet countries, "*adding non-negligible geopolitical conflict potential to their energy relations*"[45]. EU-Russia energy relations are highly determined by the nature of gas trade. Since it is mainly transported through fixed pipeline, matters of energy security between the two actors are strictly related by the political scenario that comprises those countries where the pipelines pass through.

Managing stress tests in order to prevent and be prepared for possible future disruptions became necessary after the inclusion of post-Soviet countries into the Union. Uncertainties over possible disruptions by Russia became more pressing i after the two Ukrainian energy crises of 2006 and 2009, and more recently, with the crisis of 2014 and the following annexation of the Crimea. The dependence on fixed energy transport infrastructures like pipelines puts Russia and its gas giant company Gazprom in a strong position vis-à-vis the European Union, hence occupying a "*virtual monopoly over ownership, production, processing and transportation*"[46] of gas into Europe.

Priority of the EU energy security strategy is to diversify its energy importers, trying in this way to decrease its dependency on Russia for gas. This is possible by the adoption and construction of LNG terminals in the European coasts, and the construction of new pipelines in order to create new gas routes. It should not be surprising then that the EU is increasing its cooperation with the South Caucasus.

However, as I will analyze in-depth later, the are other problems in creating

[45] Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.
[46] Andrei R. (2015), "Energy Security in South-East Europe: Natural Resources as Causes of Conflict or Building Stability", Balkan Social Science Review, Vol. 5, June.

new gas routes such as the lack of infrastructures in many South-East European countries[47].

In this chapter I summarized the development of energy security within the European Union. I showed how the pattern towards energy sustainability is fully endorsed and that the Union already achieved some of the most important targets.

However, when we analyze energy security in terms of guaranteeing energy flows and countermeasures to disruptions, the Union is still far from sustaining a prolonged disruption.

On the contrary, energy security for Russia and its relation with the European's neighbors is the one of guaranteeing security of demand. It is mainly this complementary energy priority, for the EU the guaranteeing of supply whereas for Russia the guaranteeing of demand, that creates the basis of their energy relation.

However, even though their energy security's targets drive together their interests, the very different "*dimensions of their respective energy securities form the basis of their conflicting interests in their energy cooperation*"[48].

[47] European Commission (2017), "Trans-European Networks for Energy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/infrastructure/trans-european-networks-energy (accessed in date 23 March 2017).

[48] Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.

1.3. Energy Security in Russia

The concept of energy security in Russia takes a completely different understanding, not only in terms of definition, but also and especially in the determination of securities priorities. For those producing and exporting countries like Iran, Iraq, Saudi Arabia, Kuwait and Russia the concept of energy security mainly focus on maintaining profitable export. Fossil fuels, in most of those countries, are often the primary source of revenue, and therefore any change or shock in prices, or other external variables, would affect directly their economy .

Another crucial issue, especially for what concern gas, is the control of the pipelines and the determination of their routes. It is for this reason that Russia decided in 2009 to not ratify the Energy Charter Treaty, because the ECT gives to the Energy Treaty Community the "*possibility to regulate transit issues and thus access to export pipeline networks under the principles of freedom of transit and non-discrimination*"[49].

In this chapter I will analyze how energy security is structured within the Russian Federation with particular focus on its relationship with the European Union. The first part highlights the importance of energy policy for Russia after the collapse of the Soviet Union. The second will cover the geopolitical implications of its energy security under a realistic point of view. In the last part will be analyzed how the Federation depends on a "*positive energy relation with the European Union*".

1.3.1. Energy Security after the Soviet Union

Since the collapse of the Soviet Union in 15 sovereign nations, the question of national security within the Russian Federation has always run in parallel with energy interdependence. Russia during the 90s experienced a period of great uncertainties,

[49] Cossy M. (2009), "Energy Transport and Transit in the WTO", *Center for Trade and Economic Integration, The Graduate Institute,* Internet : http://graduateinstitute.ch/files/live/sites/iheid/files/sites/ctei/shared/CTEI/events/CTEI_TEE_Cossy.pdf (accessed in date10 April 2017) .

strong economic crisis, internal terrorism and external conflict. The 1999 Kosovo crises and the NATO air strikes against the Federal Republic of Yugoslavia have been decisive in the development of Western/Russian relations. The military campaign has been executed without any consultation or involvement of Russia. This intervention was considered as the beginning of new tensions between the Federation and the Atlantic Organization.

On 9th August 1999, President Yeltsin appointed Vladimir Putin as Prime Minister of Russia, and on the 31st December of the same year, Yeltsin unexpectedly resigned. It officially started "Putin-Era". In the meantime, the markets were experiencing a recovery of oil prices throughout 1999 and also demand of Russian crude oil started to increase, which signed the end of the "*oil price crises of 1998*"[50]. Within this international context, the new President of Russia was able to start an economic plan that helped to reform Russia, supported by the increased in energy prices and demand from Europe.

During his post-graduate studies, Vladimir Putin wrote a final thesis with the title "*mineral and raw materials resources and the development strategy for the Russian economy*". In this work he discussed the importance of natural resources in the Russian economy, as they represent the main instrument on which the Federation should rely in order to purse economic growth. During his presidency Putin realize its idea, starting a process of nationalization of the main oil and gas industries culminated in the fully nationalization of the gas giant Gazprom in 2005-2006[51].

"*Vladimir's Putin presidency is particularly associated with geopolitical realism*"[52]. If in the European Union during the 2000s discussions on energy policy were almost all related to the liberalization of the market, in Russia it was followed a different path: use the huge amount of energy resources as the external harm of the Kremlin in international affairs, so that energy could become the strongest soft power in the hands of the Federation.

---

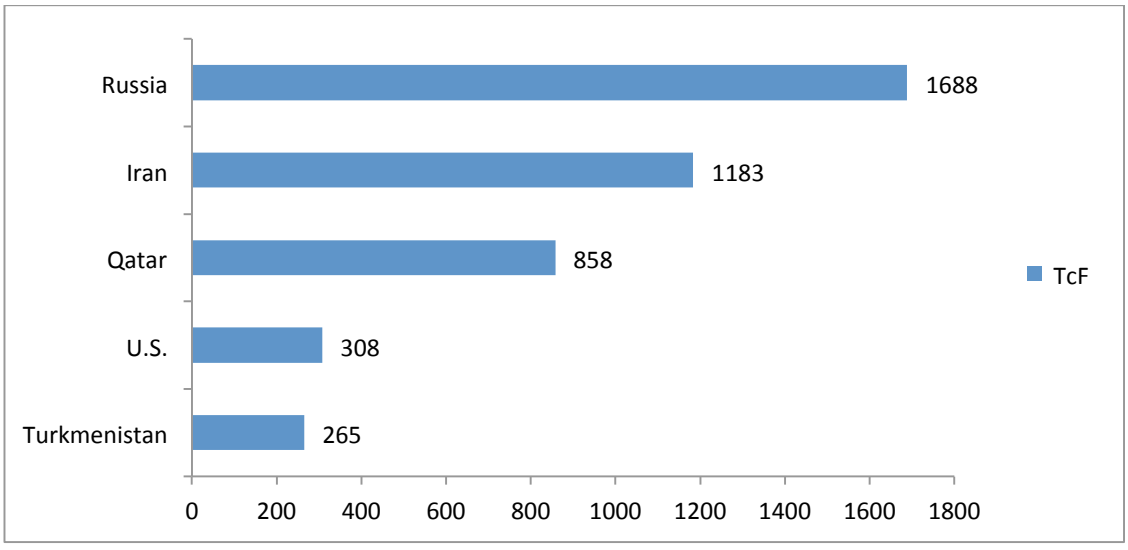
[50] Mabro R. (1998), "The Oil Price Crises of 1998", *SP 10*, October, Oxford: Oxford Institute for Energy Studies.
[51] BBC NEWS (2005), "The Kremlin Agrees Price for Gazprom", Internet: http://news.bbc.co.uk/2/hi/business/4100820.stm (accessed in date 24 March 2017).
[52] Wieclawski J. (2011), "Contemporary Realism and the Foreign Policy of the Russian Federation", *International Journal of Business and Social Science Vol. 2 No.1,* Warsaw: Lazarski Univeristy.

In the 2007, the Duma removed anti-monopoly regulations, so that the Kremlin could complete the process of energy nationalization acquiring, through Gazprom, becoming shareholder of private gas producers like Itera and Novatek[53]. We should therefore not be surprise when scholars refer to Gazprom as an extension of the Russian Foreign Ministry. A parallel government that acts in conformity to the directives of the Kremlin[54].

1.3.2. Energy Security Strategy

In terms of energy security strategy, the nationalization of most of the energy sector has been certainly in line with the strategy adopted by the Putin Presidency. Considering that Russia has the highest reserves of natural gas in the world, the nationalization helped to increase the economic reserves of the country and enabled the Federation with a strong tool of negotiation with energy importing countries.

Graph. 3: "Proved Reserves of Natural Gas – 2017"



Source: US Energy Information Administration - 2017

[53] OECD (2006), "Russian Federation 2006", *OECD Economic Surveys,* Internet: http://www.oecd-library.org/economics/oecd-economic-surveys-russian-federation-2006_eco_surveys-rus-2006-en (accessed in date 6 April 2017).

[54] Lo. Bobo (2008), *Vladimir Putin and the Evolution of Russian Foreign Policy,* London: The Chatman House Papers .

This huge amount of gas resources has allowed Russia to freely contract its gas prices with its neighbor countries and use its energy capabilities as a soft power measure: sometimes giving discount prices or other times interrupting the flows of energy.

In fact, the use of gas as a tool in order to pressure the receiving country when a dispute arises has become a common feature of the Russian's foreign policy preventive measure. The most remarkably cases, especially if analyzed with a European perspective, are the Ukraine gas crises of 2006 and 2009, which later will be analyzed in greater details.

The Kremlin has definitely used gas exports as a tool to increase its bargaining power in several occasion after the collapse of the Soviet Union, and even before the start of gas crisis with Ukraine in 2006. At the beginning of the 90s, a dispute arouse between Russia and the Baltic States regarding "*Russian-speaking minorities and Russian military installation on Baltic territory*"[55]. Estonia at the beginning of the 90s had a population of "*1,576,000, composed by "61.4% Estonian, 30% Russian, 3% Ukrainian, 2% Belarusian*"[56]. The Kremlin required at the time that should be granted citizenship automatically to all Russian ethnic citizens who were living in the Baltic. Latvia and Estonia were contrary to these requests and therefore Moscow decided to reduce gas supplies[57].

The most crucial dispute regarding gas supply during the 90s, and more in specific about gas debts and non-payment, is the one that arouse just after the collapse of the Soviet Union between Russia and Ukraine. During 1992 and 1994 the Kremlin decided in few occasions cut gas supplies to Kiev due to several unsettle controversies regarding back non-payments. In September 1993, it was held the Massandra conference, in Crimea, where Russian President Boris Yeltsin tried to settle the most critical issues between the two countries. In particular, in exchange to

[55] Kirch A., Kirch M., Tuisk T. (1993), "Russians in the Baltic States: to Be or not to Be", *Journal of the Baltic States Vol. 24 No. 2,* Summer, Taylors & Francis, Ltd.
[56] Klimas A. (1993), "Ethnic Tensions in the Baltic", *Lithuanian Quarterly Journal of Arts and Sciences Vol. 39 No. 1,* Spring, Rochester, University of Rochester.
[57] Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.

zero the gas debts, "*Moscow should have acquired control over the Black Sea Fleet and Ukraine's nuclear arsenal*"[58]. Regarding the nuclear arsenal, Ukraine already in 1992 agreed with Moscow to transfer its nuclear armaments. However, President Kravchuk decided in the same year to interrupt the deal.

The collapse of the Soviet Union left into the Ukrainian territory thousands of tactical and strategic nuclear weapons. There were approximately 1200 nuclear warheads installed on intercontinental ballistic missiles (Icbm). In addition, Ukraine hold 44 heavy Bear (Tu-95) and Blackjack (Tu-160) bombers equipped with 1,081 nuclear cruise missiles[59]. The dismantling of all strategic bombers was completed in January 2006, although some of these were actually sold to Russians to secure the huge debt contracted for gas supplies.

The remaining dispute concerning the Black Sea Fleet had been tried to be settled by the "Treaty on Friendship, Cooperation, and Partnership", signed in Kiev in 1997. However, even if the Treaty is still in force, its effectiveness, as later will be examined into more detail, is of greater doubts.

Throughout all the 90s Russia and Ukraine discussed different solutions in order to settle the gas debt. Gazprom and Naftogaz (the national oil and has company of Ukraine) met many times in order to find a common solution.

Proposals varied from the possible liberalization of Ukrainian energy sector and therefore with the entrance into the market of Gazprom, to the control over Ukrainian gas transit infrastructures.

However, a compromise was hard to achieve and instead the conflict arouse. In addition to gas debt accusations, Gazprom alleged against Ukraine for having "illegally diverted gas meant for export to other European countries"[60].

The Deputy Prime Minister Oleh Dubyna declared that just in the year 2000 almost 7/8 billion cubic meters of imported natural gas had been diverted by Ukraine from the pipelines aimed at directing natural gas for the European consumers..

---

[58] Felgenhauer T. (1999), "Ukraine, Russia, and the Black Sea Fleet Accords", *WWS Case Study 2/99*, Princeton, Princeton University .

[59] Amorosi M. (2014), "L'Ucraina Senza Atomica e Senza Crimea", *Limes Rivista Online*, Internet: http://www.limesonline.com/lucraina-senza-crimea-e-senza-atomica/59466 (accessed in date 09 January 2017).

[60] Pirani S. (2007), *Ukraine's Gas Sector,* Oxford: Oxford Institute for Energy Studies

A Resolution for the back payments was settled just on 4 October 2001, with the signing of the agreement on "Additional Measures Regarding the Provision of Transit of Russian Natural Gas on the Territory of Ukraine", more commonly known as the "2001 Transit Agreement".

1.3.3. Russian Energy Policy

The Ministry of Energy published the official document, "On the Development of the New Energy Strategy of Russia (ESR-2035)", in which it is outlined the energy strategy up to 2035. The document has been developed by the "Institute of Energy Strategy" in collaboration with the "Energy Research Institute of the Russian Academy of Sciences and Analytical Center" under the Government of the Russian Federation.

"*The central idea of the ESR-2035 is the transition from resource to resource-innovative development of fuel and energy complex*". This transition aims at developing an efficient energy sector that contributes to a sustainable economic development of the country. Moreover, it addresses the main problem of the Federation, which is the lack of technology. Despite its enormous quantity of oil and gas, Russia has slowly developed its technological sector, which depend almost entirely on external imports.

Russian energy policy, at least in part, may be understood as a soft power tool used to preserve power within what is perceived as the Russian's natural sphere of influence, Those area comprises those countries that once were part of the Soviet Union or signatories of the former Warsaw Pact[61].

The increasing EU's expansion towards the post-Soviet space is perceived by Russia has a threat to its influence in this region, notably after the EU's enlargements of 2004-7.

[61] Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.

Nowadays, "*all of the former Warsaw Pacts and Baltics satellite states are incorporated into NATO, and the EU, or its neighborhood policy framework*"[62]. Montenegro just recently ratified NATO membership, and the presence of the Atlantic Organization is evidently increasing in Georgia, where in April 2017 was held the 10th anniversary of the "NATO Days"[63].

As Michael Margelov, vice-president of the Federation Council of Russia, stated, "*the South Caucasus and Central Asia are historic zones of Russian interest and therefore they can not become strategic 'black holes' or lost to other states' geopolitical influence*"[64].

Russia has therefore lost substantial influence over those regions, as clearly happened previously in the Baltic States and more recently in Ukraine and Georgia. Moscow's economic advantages after the collapse of the Soviet Union were not comparable to the economic advantages and security offered by the NATO-EU package. However, especially after the start of the Putin's presidency, Moscow started to regain economic power and relied upon its huge amount of natural resources to increase its bargaining power towards its neighbor states and the European Union.

The increase in tensions between the two players is founded also on an evident different understanding of energy policy and more broadly international politics.. Whereas the EU follows a "de-politicized approach to energy relations", due to its strong dependence on external imports, Moscow conceives its natural resources as an "*instrument for domestic and foreign policy*"[65].

---

[62] Sakwa R. (2009), *Power and Policy in Putin's Russia,* Glasgow: Routledge Europe-Asia Studies Series.
[63] Georgia Today (2017), "Georgia Marks 10th Anniversary of NATO Days This Week", Internet: http://georgiatoday.ge/news/6231/Georgia-Marks-10th-Anniversary-of-NATO-Days-This-Week (accessed in date 13/05/2017).
[64] Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.
[65] Giusti S. (2013), "Russia's Foreign Policy for the Country's Stability", *Istituto per gli Studi di Politica Internazionale (ISPI) No. 165, April, ISPI.*

1.3.4. Russia/EU Energy Partnerships

Several strategic partnerships had been signed by Russia and the EU in order to create a common framework on which the two players are able to base their relationship. The legal basis for EU-Russia relations are developed over the "Partnership and Cooperation Agreement (PCA)", entered into force on 1 December 1997. The PCA also serves as a political platform where the EU and Russia can establish their political dialogue[66].

Another important strategic partnership, which entered into force in 2004, is the "European Union-Russia Common Spaces", based over four main areas of co-operation: "*common economic space; common space of freedom, security and justice; common space in the field of external security; common space on research, education and culture*". The latest strategic partnership instead was signed in 2011, but more recently it was questioned by the European Parliament after the annexation of Crimea.

One of the main controversial issues between Russia and the European Union is the energy partnership. They both see energy as a strategic resource, with natural gas at the base of their commercial relations. However, while for the EU energy is the necessary condition for all the economic activities within its Member States, for Russia it is also a source of income and soft power resource.

Various institutional energy frameworks have developed in order to provide for a share platform where to discuss matters of energy relationship. "The EU-Russia energy dialogue" was signed in 2000 with great confidence and strong rhetoric on the possibility to revive a new European Coal and Steel Community between Russia and the EU, but unfortunately became "*a technical talk-shop between semi-empowered, semi-interested technocrats*"[67].

Following the Ukraine gas dispute of 2009, it was decided to establish an "Early Warning Mechanism", with the aim of preventing "*further supply*

[66] European Commission (2014), "The European Union and Russia: Close Neighbors, Global Players, Strategic Partners", *European Commission External Relations,* Internet: https://eeas.europa.eu/sites/eeas/files/eu_russia_en.pdf (accessed in date 10 April 2017) .

[67] Talseth L. U. (2012), "The EU-Russia Energy Dialogue: Travelling Without Moving", *German Institute for International and Security Affairs,Working Paper FG5, Berlin, SWP Berlin.*

interruptions in gas, oil, or electricity, and to ensure rapid communication"[68] between Russia and the European Union.

In 2011, the newly formed "EU-Russia Gas Advisory Council", held its first annual meeting with the objectives of: "*assess the developments of gas markets in the Russian Federation and the EU; evaluate the development of gas production, demand and transmission; evaluate the development of supply prospects and consumption; discuss aspects related to market structures and infrastructure*"[69].

To conclude, in March 2013, the Kremlin and the Commission agreed upon an "EU-Russian Energy Roadmap"[70] to 2050, based on a strong joint commitment to purse low-carbon policy goals and ensure that the path towards energy sustainability will reach the established targets. .

Even though the EU-Russia energy trade has not been strongly affected by the recent Ukrainian crisis (in terms of Russian gas export towards the various European Member States), the institutional energy relationship between Moscow and Brussels has slowly deteriorated. The European Commission reported on 16 May 2016 that "*there is a strong mutual interest in a closer energy partnership between the EU and Russia*"[71], however the "EU-Russia Gas Advisory Council" held his last meeting in November 2013[72] and after that it has been suspended as has the "EU-Russia Energy Dialogue"

In the following chapter I will first analyze Russian foreign policy doctrine, in order to give a clearer idea of how Moscow perceives international politics. After, I will move toward a closer analysis of the main gas disputes that involved Russia, Ukraine and consequently the European Union.

---

[68] European Commission (2017), "Russia", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/international-cooperation/russia (accessed in date 15 April 2017).

[69] European Commission (2011), "EU-Russia Gas Advisory Council – Rules of Procedures", Internet:https://ec.europa.eu/energy/sites/ener/files/documents/2011_10_18_rules_of_procedure_final.pdf (accessed in date 16 April2017).

[70] European Commission (2013), "EU-Russia Energy Cooperation until 2050", Internet: https://ec.europa.eu/energy/sites/ener/files/documents/2013_03_eu_russia_roadmap_2050_signed.pdf (accessed in date 16 April 2017).

[71] Maltby T., Sharples J. (2016), "Challenging Reductionism in Analyses of EU-Russia Energy Relations", *GEOPOLITICS Vol 21. No. 4,* Routledge Taylor & Francis Group.

[72] Maltby T., Sharples J. (2016), "Challenging Reductionism in Analyses of EU-Russia Energy Relations" , *GEOPOLITICS Vol 21. No. 4,* Routledge Taylor & Francis Group.

2. EU-Russian Relations after the Ukraine Crisis of 2014

2.1. Russian Foreign Policy Doctrine

After the end of the Cold War the balance of power established by the bipolar system ended. New trends had emerged and the global geopolitical chessboard is radically changing. The unipolar world predicted by Kenneth Waltz in his book "*Structural Realism after the Cold War*" did not realized. The question is then how will be the next geopolitical configuration. Are we going towards a "*Clash of Civilizations*" in which the compartmentalization of the world will be based on common civilization?[73]. Is a new Cold War era reappearing in contemporary politics?[74]. Or we are coming back to a multipolar world system as that one already theorized by Morgenthau?

At least three statements can be outlined regarding the composition of contemporary world politics. New leading actors emerged and reached the status of great powers, and old powers such as the Russian Federation has returned to be primary players in international relations. Many territorial reconfigurations are shacking the international political scenario and the most important players are trying to create their sphere of influence[75]. The most powerful great power, the United States, is showing under the new Trump administration a strong interventionism in foreign policy.

The spread of new conflicts, especially in the Middle East, are creating vacuum of powers contended by different political actors. Islamic terrorism has reached stronger support from a young generation alienated by their values and its threat to Western society is increasing day by day.

[73] Huntington S. P. (1997*): The Clash of Civilizations and the Remarking of World of Order*, New York: Touchstone
[74] Kalb M. (2015), *Imperial Gamble: Putin, Ukraine and the New Cold War*, The Brookings Institute: Washington D.C.
[75] Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13,* Moscow: Сравителная Политика и Геополитика.

All those events and changings in the international political scenario have brought to a new world order that is characterized by many international players but without a single hegemon. International relations are becoming increasingly more regionalized.

In this chapter I will analyze the role of Russia in this political context. I will first provide for a brief introduction of its main peculiarities. Then I will analyze its contemporary foreign policy and its relation within the Eurasian context. The role that Russia is playing in nowadays-contemporary world politic has never been so determinant since the Cold War era[76]. The assets of the geopolitical order and the new sphere of influence are still to be determinate.

The main scope of this chapter is the one of giving a general account of Russian foreign policy, not exclusively looking at its energy foreign policy, but to give a broader understanding of its perception of world politics. In order to do this, it is essential to focus on the importance of international political theories that focus on concepts such as regional sphere of influences and subsystems: the ability of the stronger power in a regional context to organize the space around itself[77].

I will than provide a clear analysis of Eurasia as a subsystem and how it can be developed in relationship to the new world order. More specifically, how the Russian Federation intends to act in order to organize the space around itself, since the peripheral areas in Eastern Europe and South Caucasus have slowly moved under the European Union's sphere of influence. Finally, I will look into the "*small Eurasia*" subsystem and the possibility of the creation of a "*greater Eurasia*" that would involve the Eurasia Economic Union and China.

2.1.1. Foreign Policy Concept: Subsystems and Regional Spheres of Influence

In order to understand Russian foreign policy it is necessary to understand how its geographical configuration has made of Russia a "*sui generis*" actor in the international geopolitical chessboard. The Russian Federation is the largest country in

[76] Lieven A. (2011), "The Cold War and the Post Cold War World", in *Russia in Global Affairs,* 29 December
[77] Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13,* Moscow: Сравителная Политика и Геополитика.

the world and borders with fourteen different countries, without taking into consideration the "*dispute territories*"[78]. Those borders lack in natural barriers and this has always affected Russian's foreign policy since it had constantly to protect and secure its borders.

In 2013 was published the official document "*Foreign Policy Concept of the Russian Federation*", in which are listed the basic priorities and goals of Russia. It is worth to mention some of those principles in order to understand Russian foreign policy behavior. It results from the document that one of the most important goals is to "*guarantee the safety of the country…ensuring its standing position in the international community as one of the influential and competitive poles in today's world politics*"[79].

Taking into account this principle, can be stated that the priority for Russian foreign policy is to safeguard and guarantee its national security (of borders and citizens), and second to ensure its influence in international politics. A clear application of this assumption is the Russian intervention in Syria, and to a certain extent, even with major differences, the annexation of Crimea.

For what concern the military intervention in the Syrian crisis, and the support to president al-Assad, I developed through the studying of the Russian foreign concept, three many macro reasons:

- "*Security aspect*": the intervention is aimed at preventing the spread of Islamic terrorists towards countries that directly confine with Russia.
- "*Influential aspect*": in the Middle East at the moment is fight a battle in which the major powers are trying to create a sphere of influence within the new subsystem that will derive at the end of the conflict.
- "*Ideological aspect*": Russian has put itself as the major advocate in international relations of the principle of "sovereignty legitimation". This

[78] Yefremenko D. (2010), "Forced or Desired Modernity? Russia's Chances in the Post-American world", in *Russia in Global Affairs*, 15 October .
[79] Ruiz González F. J. (2013):"The Foreign Policy Concept of the Russian Federation: A Comparative Study", *Framework Document 03, April*: Instituto Espanol de Estudios Estratégicos.

justifies its intervention into the conflict in favor of president of Syria Bashar al-Assad.

Taking aside the major aspects of security and sphere of influences, the recent conflicts between Western powers and Russia are connected by a same minimum common denominator. On one hand we have the U.S. and its Western allies who defend the rights of the citizens in their auto determination; and the other hand Russia, which is defending the principle of democratic and sovereignty legitimation. For this reason in the Syrian conflict the U.S. are claiming the rights of the rebels, whereas Russia stand in favor of Assad. It is obvious that this is not the necessary and sufficient condition for the military intervention within the conflict, but still it has a huge impact on how citizens perceive the policies of this super powers.

However, the behavior of Russia is characterized by a strong paradox, especially for what concerns the Crimean case. Even if it is true that in general Russia pursues a strong "*sovereignty-determination*" principle in foreign affairs, after the annexation of Crimea, in February-March 2014, this principle has been substituted to the one of "*self-determination of people*"[80].

After the "*Euromaidan movement*", which arouse due to the suspended operations by former president Viktor Yanukovych on the implementations of the association agreements that were part of the European Eastern Partnership, the Kremlin immediately supported Yanukovych, invoking the principle of sovereignty-determination. However, few months after, Moscow appealed to the legitimation of the referendum held in Crimea on 16 March 2014, which saw more than 90% of the voters requesting to be part of the Russian Federation[81].

However, the Ukrainian case is strongly different from the Syrian one. After the collapse of the Soviet Union, some of the main infrastructure facilities that were essential for Russia remained in what now are called CIS countries. Particularly

[80] Mamlyuk B. N. (2015):"The Ukraine Crisis, Cold War II, and International Law", *SSRN No.3*: The German Law Journal.

[81] Crimean News Agency (2014), "Crimean Parliament Declares its Independence from Ukraine", *Politics,* Internet: http://qha.com.ua/en/politics/crimen-parliament-declares-its-independence-from-ukraine/130814/ (accessed in date 25/04/2017).

relevant for the analysis is the vast network of Russian's pipelines that pass through the Ukraine's territory. It should not be surprising that the Kremlin built a strategy in order to decrease its dependence on Ukraine through the construction of alternative pipelines that bypass the territory (a clear example is the North Stream pipeline and the upcoming Nord Stream 2[82]).

After the annexation of Crimea, Russia hardly will intervene directly in the Ukrainian territory. More generally, hardly Russia will get involved in conflicts within its borders and it will intervene in the affairs of the other post-Soviet countries "*only if Russian communities there are repressed*"[83].

The Commonwealth of Independent States (CIS), a regional organization that comprises nine of the formers Soviet Republics[84], represents one of the major areas of interest for Russia. They are considered as an area in which maintain a common ethnic and cultural commonality thanks to their proximity and their common history, and where therefore it is necessary to build relations upon mutual trust. In 2011 it was ratified the "*Commonwealth of Independent States Free Trade Area*" (CISFTA), a free trade area that include Ukraine, Belarus, Uzbekistan, Moldova, Kazakhstan, Kyrgyzstan and Armenia.

In 2014 was signed a bigger free trade area agreement called the "*Eurasian Economic Union*" (EAEU), which currently counts 5 member States, respectively: Russia, Kyrgyzstan, Kazakhstan, Belarus and Armenia. One of the major objectives for Russia would be to enlarge the Eurasian free trade zone towards countries of Central Asia and the Caucasus and to those more aligned countries such as Turkey, India, and Iran. The main goal of Russia, and the BRICS in general, is to become a major economic power comparable to the "*Group of 7*", especially after its exclusion from the Group due to the Annexation of Crimea[85].

---

[82] Gazprom (2017), "Nord Stream 2", *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/nord-stream2/ (accessed in date 25/04/2017),
[83] Bezrukov A., Sushentsov A. (2015),"Contours of an Alarming Future" in *Russia in Global Affairs,* 21 September
[84] United Nations (1993*), Charter of the Commonwealth of Independent States (with declaration and decisions),* January, Minsk.
[85] World Affairs Journal (2015), "G7 Summit Ready to Convene again without Russia", *World News,* Internet: http://www.worldaffairsjournal.org/content/russia-excluded-g7-conference-second-time (accessed in date 26/04/2017).

Russian's relations with the West, and especially the European Union and the U.S, are slowly deteriorating. The Ukrainian crisis and the following counter-policy of the sanctions have marked a downward shift in the political relations between Russia and the European Union. The agreements reached at the 30th European Union-Russia summit in 2012 are now threatened by the current political crisis. However, Russia still considers the European Union as one of its major economic partner, even though according to Moscow it lacks an independent political will. According to Russia, the European Union acts as a shadow of the United States of America in terms of foreign policy, and a shadow of NATO in terms of military policy, making in this way the cooperation hard to achieve.

Towards the East, Russian's foreign policy has increased rapidly in the recent years also as a safeguard against the Western neighbors. China is increasingly becoming a major economic partner for Russia and their relationship in terms of mutual trust are day-by-day getting better. The recent energy deal labeled as "*Power of Siberia*", which will provide Russian gas to China up to 38 billion cubic meters per year[86], has contributed significantly in establishing a common ground for the new Russian-China relations. Moreover, the "*European-Far Eastern*" transport project, which is directly connected with the Baikal-Amur and the Trans-Siberian railway, jointly with the "*China's Silk Road Economic Belt*" could become the biggest project in all Eurasia[87].

2.1.2. The Eurasian Project

The subsystem in which Russia could best operate comprises part of what have been usually called "*post-soviet space*" and has been labeled as "*small Eurasia*" (this area mainly include central Eurasian states). The central-Eurasian post-soviet space is seen as an area that is not organized, where there is no leader that can actually organize the territory around him and create a subsystem. For this reason, different players are trying to create their sphere of influence, like the European Union is doing

[86] Gazprom (2017), "Power of Siberia" *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/ykv/ (accessed in date 25/04/2017)..

[87] Bezrukov A., Sushentsov A. (2015),"Contours of an Alarming Future" in *Russia in Global Affairs,* 21 September

since many years within its nearer post-soviet space. A concrete example is the "*Eastern Partnership*", which aims at establishing economic and cultural partnerships with Ukraine, Azerbaijan, Armenia, Belarus, Georgia and Moldova[88].

The European Union is not the only international player that aims at creating a sphere of influence in the post-soviet space. Both Turkey and China are trying to expand their interests toward Central Asia[89]. However, if on one hand Trans-Caucasian and Eastern European countries seem already slowly moving towards the European subsystem, on the other hand, the path of Central Asian countries is different. Next to them there is not any clear and stable organized subsystem and the organization of the space around them has to be directed towards the only "core-State" of the region, which is Russia.

After the collapse of the U.S.S.R., the Russian Federation returned to be a fundamental international player in the geopolitical chessboard. He re-started to act as a great power both at regional and global level and to "*be the center of integration for post-Soviet countries*"[90].

The subsystem in which the Russian Federation would play the role of core State is formed by most of the CIS countries. It would include Kazakhstan, Kirghizstan, Tajikistan, Belarus, and Armenia together with the possibility of Uzbekistan, Turkmenistan, and Moldova. These states have been labeled as "*transit-states*"[91], due to their uncertain position towards their neighbors and easily incline to change their position towards other sphere of influences.

Although the Russian Federation is still the only core state that can play the role of the stabilizer within the central Eurasian subsystem, the "*transit-states*" have often used the card of uncertainty in order to obtain economic benefits. A clear example of this attitude is that one of some Eastern European countries such as

[88] European Union External Action (2017), "Eastern Partnership", Internet: https://eeas.europa.eu/topics/eastern-partnership_en (accessed in date 05/05/2017).
[89] Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13,* Moscow: Сравителная Политика и Геополитика.
[90] Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13,* Moscow: Сравителная Политика и Геополитика.
[91] Lieven A. (2011), "The Cold War and the Post Cold War World", in *Russia in Global Affairs,* 29 December.

Ukraine, Moldova and Belarus, which have used their transit-position in order to obtain benefits from Russia, especially in the energy market.

Central Asian states, on the contrary, are usually not characterized by this uncertainty[92]. This attitude can be explained by the behavior of their southern neighbors that are ambivalent and uncertain in their positions. Turkey and India do not seem to be safer and especially more profitable as core States than Russia. On the other hand, the Middle East countries do not have the economic and political stability in order to be the central States of a subsystem.

The Russian Federation is thus the best player in order to act as the core country in the "*small Eurasia*" subsystem. It is the biggest and richest country in the region and can play as a guarantor towards the sub-systems States in terms of security[93]. The Russian Federation remains one of the major military powers in the world. Being part of the "small-Eurasian" sub-system would mean then living under the protection of a "*nuclear umbrella*"[94].

2.1.3. The Eurasian Economic Union

In order to have a clear understanding of Russian's foreign policy, and the importance of the "*small-Eurasian*" subsystem, it is necessary to analyze the Eurasian Economic Union (EEU), and the integration role that it plays within the subsystem. The main aim of the EEU is the creation of a single market for goods, services, capital and labor for its member states[95]. The founding Treaty has been signed on the 29 May 2014, and currently counts five member states, which are respectively: the Russian Federation, Armenia, Belarus, Kazakhstan and Kyrgyzstan; and two observers: Tajikistan and Uzbekistan.

It is an economic union of states that was formed to "*help participating countries unlock their economic potential, boost economic ties within the region, and*

[92] Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13,* Moscow: Сравителная Политика и Геополитика.
[93] Donaldson R., Nogee, J. (2009)*, The Foreign Policy of Russia. Changing Systems, Enduring Interests,* London: M. E. Sharpe.
[94] Ruiz González F. J. (2013):"The Foreign Policy Concept of the Russian Federation: A Comparative Study", *Framework Document 03, April*: Instituto Espanol de Estudios Estratégicos.
[95] Bordachev T (2015), "New Eurasian Momentum" in *Russia in Global Affairs,* 14 December.

create conditions for improving the countries' global competitiveness"[96]. However, due to its recent creation, the EEU needs to make major steps towards major integration through economic reforms. According to Taras Tsukarev and Evgeny Vinokurov, both working at the Centre for Integration Studies of the Eurasian Development Bank, four major steps should be included into the next EEU agenda:

- "*Completing the formation of a single market for goods and services by removing existing exemptions*";
- "*Unify or cancelling as far as possible non-tariffs barriers within the members of the Union*";
- "*Coordinating macroeconomic policy, including monetary and financial matters, thereby preventing the economic union's 'sprawl'*";
- "*Creating a network of free-trade areas and free-trade agreements, which include the EU and China*"[97]

The role of the Eurasian Economic Union is not limited to form an economic union of states. It is the institutional pillar on which the Eurasian subsystem will develop. A subsystem, in order to be stable and effective, needs a central strong state and a system of economic and political interactions between the various states that form it. The EEU is the fundamental institution in providing this role.

One of the main goals in Putin's third time presidency is the one of creating and consolidating the Eurasian Union, with Russia at head of it. The Eurasian Union would work closely with the Collective Security Treaty Organization (CSTO), as the Euro-Asiatic equivalent of the joint combination of EU and NATO. The CSTO in fact is an intergovernmental military alliance that comprises six Member States: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan, and its functions are similar to that one of NATO.

[96] Dutkiewicz P., Sakwa R. (2014), *Eurasian Integration – The View from Within*, Abingdon: Routledge.
[97] Tsukarev T., Vinkorub E. (2015),"Agenda for the EEU Economy", in *Russian in Global Affairs,* 28 October.

2.1.4. Russia, China, and the Greater Eurasia

The partnership between China and the Russian Federation characterized by the recent increase in economic and trading initiatives added new dynamics in the Central Eurasia argument. The two countries already are founding members of the "*Shanghai Cooperation Organization*" (SCO) and the recent energy deal "*Power of Siberia*" has brought them closer[98].

The implementation of the joint statement of both Putin and Xi Jinping on the integration of the Eurasian Economic Union and the "*Silk Road Economic Belt*"[99] projects, not only identifies an area of cooperation between the member states of the EEU with China, but could be the beginning of the emergence of one of the new most important regional power of the 21st century[100].

In the recent years the Eurasia space, better identified as "*post-Soviet space*", has been an area contended by external actors that have tried to create their own sub-systems building up their sphere of influence. The only real player that could build a sub-system within that space is the Russian Federation for the reasons mentioned before. However, that space is still sometime seen as a vacuum or following the scholar literature, as the "*bridge*" connecting the West to the East.

The process of alignment between China and Russia is seen by Western powers with scepticism. The general idea is that a new block of power, that is a "*greater Eurasia*", could not be created due to the higher differences between the two countries. However, this is not true since "*Russia's national development goals do not require a conflict with China over Central Asia, and vice versa*"[101].

Both great powers are searching and trying to find new resources and opportunities in the space around them: labour for China and broader investment horizons for the Russia. "*Both Russia and China are vitally interested in regional*

[98] Vorobyov V. (2012)," The SCO as a Rising Master of the Heartland", in *Russia in Global Affairs,* 25 March.
[99] Svedentsov V. (2015), "The Eurasian Economic Union and the Silk Road Economic Belt – prospects for cooperation", in *Russian Institute for Strategic Studies,* 27 October.
[100] Bordachev T. (2015), "New Eurasian Momentum", in *Russia in Global Affairs,* 14 February.
[101] Svedentsov V. (2015), "The Eurasian Economic Union and the Silk Road Economic Belt – prospects for cooperation", in *Russian Institute for Strategic Studies,* 27 October.

security and the stability of their political regimes"[102].

The relationship between the EEU and China cannot be viewed just as an economic partnership. "*The Economic Belt initiative is an infrastructure and investment project, which presupposes shifting the focus to harmonization of technical regulations*"[103] and particularly the adoption of EAEU regulations by China, which is seeking to invest in the Eurasian Economic Union, as well as to mutual recognition of technical standards.

If the "greater Eurasia" project will be realized, then a new bloc of power will emerged in the geopolitical context. Both countries seem to be willing to pursue this goal, even if the realization of it is still hard to predict. On one hand there will be the risk for Russia and the EEU to become passive actors compared to China, on the other hand, because of the "*Asian mentality and China's lack of experience in implementing large-scale geostrategic projects*"[104], the process will take more time than if other actors were involved.

2.1.5. Concluding Remarks

Russia has returned to be a primary actor in the contemporary world politics. The balance of power has shifted from what seemed to be a unipolar world constructed under U.S. image towards a multipolar system in which the regional configuration has still to be determined.

All the major players are now fighting in order to have a privileged position in the new world order. One of the major battles is certainly fought in the Middle East within the Syrian civil war context. Again, as in the Cold War era, the United States and Russia are determinant in the configuration of the future international political scenario.

The Eurasia will continue to be Russian main interest in terms of foreign policy. Russia has the opportunity to act as the bridge between the Western powers

[102] Bordachev T. (2015), "New Eurasian Momentum", in *Russia in Global Affairs,* 14 February
[103] Svedentsov V. (2015), "The Eurasian Economic Union and the Silk Road Economic Belt – prospects for cooperation", in *Russian Institute for Strategic Studies,* 27 October.
[104] Vorobyov V. (2012)," The SCO as a Rising Master of the Heartland", in *Russia in Global Affairs,* 25 March.

and China. The way it will construct its future relations within those two contexts will determine Russian future position in the new world order.

The "*small Eurasian*" sub-system, thanks to the Eurasian Economic Union and the work of the Russian foreign policy, has been de-facto a reality. The Russian Federation is the only player who can act as a core power able to maintain stability and organize the Central Asian "post- soviet" space.

Harder is the creation of a "*greater Eurasia*" project. Both Moscow and Beijing seem willing to develop their cooperation and maybe form a regional bloc of power, but the road in order to achieve it is still complex and uncertain.

Finally, the relationship with the European Union is constantly deteriorating, not only due to different understanding of world politics, but mainly in the pursing of different goals. Even if the Eurasian project remains a core goal of Russian foreign strategy, maintaining a sphere of influence over the "post-Soviet" countries has always been a priority since the collapse of the USSR.

The breaking point of Russia-EU relations has to be found in the last Ukrainian crisis and the annexation of Crimea, which gave birth to the USA and EU economic sanctions against Russia, and the following counter-sanctions applied by Moscow

However, not all the Member States of the European Union are in favour of sanctions regime, and this contrast of interests between Member States and the Commission in Brussels is visible on their different approach regarding energy polices and their collaboration with the Kremlin.

In the next chapter I will examine first the Ukraine gas disputes arouse in 2006 and 2009. I will summarize what actually brought the beginning of the last Ukraine crises. Those crises are extremely important in order to understand the energy relationship between Russia and the EU, why exists a dichotomy of interests between the Union and some Member States, and finally why I decided to call their energy relationship an "*asymmetrical interdependence*".

2.2. Ukrainians Gas Disputes of 2006 and 2009

At the beginning of 2004, Gazprom exported to 22 European countries natural gas for a quantity almost equal to 150 bill. of cubic meters[105]. In total, the gas coming from the Russian Federation covered 40% of their total imports. Except from Finland, and the natural gas supplied by the Blue Stream pipeline, all gas exports to Europe passed through 3 countries: Ukraine, Belarus and Moldova. Of special importance is the role of Ukraine that, due to its strategic geographical position, could in 2004 delivered more than 80% of Russian gas exports directed to Europe.

Throughout the 90's many gas disputes arouse between Ukraine and Russia and were never completely resolved.. The main problems aroused after the fall of the Soviet Union and concerned gas prices and debts. During 1992 and 1994 the Kremlin decided in more than one occasion to suspend gas supply to Kiev due to several unsettle controversies regarding debts. In September 1993, it was held the Massandra conference, in Crimea, where Russian President Boris Yeltsin tried to settle the most critical issues between the two countries. In particular, in exchange to zero the gas debts, "*Moscow should have acquired control over the Black Sea Fleet and Ukraine's nuclear arsenal*"[106].

The issues regarding the prices for gas, and the Russian presence in the Black Sea, were never resolved, and became the basis on which the future gas disputes developed. In this chapter, I will first examine the gas crisis of 2006 and then the one of 2009, trying to highlight the causes that led to the outbreak of the disputes and their consequences for the future of Russian-Ukrainian relations.

[105] Makarova N. (2008), "Gazprom: Gas Giant Under Strain", *Working Paper No.71,* January, Stanford: Freeman Spogli Institute for International Studies.
[106] Felgenhauer T. (1999), "Ukraine, Russia, and the Black Sea Fleet Accords", *WWS Case Study 2/99*, Princeton, Princeton University

2.2.1. Gas Dispute of 2006

In 2004, Gazprom and the Ukrainian government agreed on a deal in order to deliver Central Asian gas (manly from Turkmenistan) to Ukraine in order to settle past debts of Turkmenistan to Russia. Moreover, Moscow decided to grant a loan to Ukraine's national gas company Natfogaz with the aim of allowing it to pay for its past gas debts, and "*agreed foundation for at least five years of deliveries of Turkmen gas and transit of Russian gas to Europe*"[107]. The agreement settled deliveries of gas from Russia to Ukraine for the period of 2005-09 of almost 25 billion of cubic meters per year, as a barter payment for transit of gas to Gazprom's European customers[108]. "*For this barter agreement – under which no actual money changed hands between the parties – the notional price of Russian gas sold to Ukraine was $50/mcm and the notional tariff for transit of Russian gas across Ukraine was $1.09375/mcm/00km*."[109].

On 26 December 2004, just after the end of the Orange revolution, President Yushchenko won the presidential elections, marking a strong shift of Ukraine towards the European Union's sphere of influence. At the same time, a crisis developed in Turkmenistan regarding its gas supplies. The authorities in charge of Turkmen's gas requested an increase in price for their gas, from both Ukrainian and Russian counterparts ("*from $42/mcm to $60 mcm for the next year*").

The Russians and Ukrainians waited before accepting the Turkmen's offer, which caused an immediate stop of Turkmen gas flows on 31 December 2004, and led to immediate renegotiations. Ukraine agreed to increase the price of Turkmen gas from $42/mcm to $58/mcm, paying 50% by cash and 50% by barter ("*50:50 cash/barter*"). Moreover, in January 2005, it was established a new joint venture with the aim of shipping the Turkmen gas into Ukraine called "RosUkrEnergo" (it

[107] Stern J.P. (2005), *The Future of Russian Gas and Gazprom,* Oxford: Oxford Institute for Energy Studies
[108] Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: Oxford Institute for Energy Studies
[109] Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: Oxford Institute for Energy Studies

remained the only importer of natural gas from Gazprom to Naftogaz until the Ukrainian gas dispute of 2009).

For what regards Russia, the negotiations were held in May 2005 by the CEO of Gazprom Alexis Miller and the Turkmen President at the time Niyazov. They agreed to maintain the price of Turkmen gas at $44/mcm but instead of paying 50% by barter, it would have to be entirely paid by cash ("*from July 2005, Ukraine also opted to pay a cash price of $44/mcm bringing it into line with Gazprom arrangements*"[110]).

Initial tensions between Kiev and Moscow arouse in March 2005, when Gazprom informed the new elected Ukrainian president that it would have arisen the price of gas to market prices, approximately $160 for one thousand of cubic meters, President Yushchenko's sympathies towards the European Union and its possible approach to the European free market area worried the Kremlin.

Yushchenko initially agreed on paying a higher price for gas in return for increasing also the prices concerning the transit fees. This was followed by initial agreements to pass from a barter form of payment to a cash one regarding the Russian gas directed to Europe. Since the Ukrainian economy would not afford a gas price higher than $90, Yushechenko asked to a yearly gradual increase of price.

However, new conflicts arouse when almost $7.8 billion cubic metres of natural gas coming from Russia disappeared, which were supposed to be deposited in Ukraine in some storages during the previous year. Both parties accused each other, with Russian claiming that Ukraine stole it or more in general that has leaked away[111].

A preliminary agreement was reached in July of the same year after talks between Gazprom, Neftogaz and RosUkrEnergo. The three companies an agreement in which was established that 2.55 billion cubic meters of natural gas had to be given

[110] Stern J.P. (2005), *The Future of Russian Gas and Gazprom,* Oxford: Oxford Institute for Energy Studies
[111] Kramer A.E. (2006), "Russia Cuts Off Gas to Ukraine in Cost Dispute", in *The New York Times*, 2 January

to Naftogaz for what regards its claiming over the transit services. Other 5.25 billion "*were sold by Gazprom to RusUkrEnergo who was to receive it from Naftogaz*"[112].

However, at the end of 2005, the negotiations between Moscow and Ukraine started to face new problems. After having welcomed the demand of Naftogaz regarding an increase in the transit services, Gazprom settled the prices of natural gas for 2006 at the European market prices, therefore around $160-220 for thousand cubic meters. At the beginning Kiev agreed sure that was just a phase of the agreement and the real price would be around $80 for thousand cubic meters.

In November 2005, Kiev proposed as an exchange for gas payments to supply the weapons located in the Ukrainian territory to Moscow. Moreover, some concerns arouse regarding the actual price Moscow paid to Kiev for allowing the Black Sea Feet to stay in Sevastopol, but the Kremlin refused to start any debate regarding the lease price that regulated the deal[113].

Inside the Russian Federation the question regarding the price paid by Ukrainians for natural gas started to become central in the public debate. The general claim was that Ukraine had the possibility to pay the same amount of money for gas as its European's neighbours do. Moreover, Russian citizens started to protest since Ukrainians paid a lesser price for electricity than them.

The first threat of a cut in energy supply was announced by Gazprom on December 13 in a statement in which warned Ukraine that there would be a cut if they wouldn't accept the market price. It was also proposed the possibility of creating a joint venture in order to control and operate the pipelines passing by the Ukrainian territory.

Kiev refused the proposal and this triggered the decision by Gazprom to settle a new price for natural gas of $220 for one thousand of cubic meters, stating that this

[112] Rustokcs (2005),"Gazprom and Naftogaz Ukrainy settle 7.8 bcm of Russian gas in Ukrainian UGS facilities problem",Internet: http://www.rustocks.com/index.phtml/pressreleases/0/46/7822?filter=2005 (accessed in date 19/04/2017).

[113] Felgenhauer T. (1999), "Ukraine, Russia, and the Black Sea Fleet Accord", *Woodrow Wilson Case Study No.2:* Woodrow Wilson Center.

was the market price at the time[114]. It immediately followed the Ukrainian's counter proposal, which requested an international arbitration in order to settle the dispute.

On December 15, Kiev proposed a counter-offer, asking Moscow a gradual increase in prices of gas until 2010, instead of immediately charging the full market price, in exchange of the creation of a joint-venture for controlling and operating the supply of gas within the Ukrainian borders. However, Gazprom did not accept the offer since it was not advantageous for its interests.

At the end of December 2005 the situation seemed unresolvable. The two parties couldn't reach an agreement, and the European neighbours started to worry about the incumbent crisis. They were aware that a possible disruption of energy flows through Ukraine would affect directly their energy supply.

On December 29, the Kremlin moved another proposal, which consisted in a loan equal to $3.6 billion in order to help Ukraine to afford, for the initial period, the increase in gas prices. However, Yushchenko rejected the deal. Finally, Moscow proposed its last offer allowing to Kiev to postpone the increase in prices until April 2006, at the condition that Ukraine should immediately accept the market prices for gas. But also in this occasion the proposal was not accepted, creating the biggest European gas crisis of the 21st century.

At the beginning of January 2006 Gazprom cut gas supply to Ukraine for 4 days. The situation was worsening by new accusations towards Naftogaz of having stolen approximately $25 million worth of natural gas[115]. It followed a reduction of Russian gas flows towards the European Union's Member States

Table 4: "European Countries Affected by Interruption of Russian Gas Flows (2006)"

Country	Drop in Supply
Austria	33%
Bosnia and Herzegovina	100%
Croatia	100%

[114] Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: Oxford Institute for Energy Studies.
[115] Parfitt T. (2009), «Ukraine Accused of Stealing Russian Gas as Fuel Flow Declines», in *The Guardian,* 3 January.

France	25-30%
Hungary	40%
Italy	24%
Macedonia	100%
Poland	14%
Romania	20%
Serbia	100%
Slovakia	33%

Source: European Commission

The European Union asked immediately for an urgent resolution in order to end the crisis. Accusations were moved against both Russia and Ukraine, asking both parties to fulfil the contract regarding the flows of gas directed to Europe.

Thanks also to international pressure, the dispute was ended on January 2006, with an agreement between Kiev and Moscow. They agreed on a five-year contract, even though the question of the prices was just temporary settled. Furthermore, Russian gas was no more directly sold to Ukraine's national gas company, but to RusUkrEnergo at the average European market-price.

RosUkrEnergo then mixed the Russian gas with the cheaper Turkmen one, and sold it to Naftogaz at $95 for thousand cubic metres. Moreover, it was finally agreed to increase the border transit tariff that was of great concern for Kiev[116].

The crisis had strong political consequences and put energy security matters again at the center of the European debate. Both the U.S. and European media accused Russia claiming that its actions were strongly motivated by the new alignment of Ukraine towards its western neighbours

President Yushenko commented the crisis stating that: "*Vladimir Putin intends to destabilise Russia's western neighbour in the hope of unseating its leader...with elections looming in Ukraine, President Putin regards this as the right time to exert pressure*"[117]. Accusations were moved also by the former U.S. Secretary of State

[116] Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: Oxford Institute for Energy Studies.
[117] Independent (2006), "A Whiff of Dangerous and Unstable New World", Internet: http://www.independent.co.uk/voices/editorials/leading-article-a-whiff-of-a-dangerous-and-unstable-new-world-

Condoleezza Rice: *"..appeared to us to be politically motivated efforts to constrain energy supply to Ukraine. The game just can't be played that way...when you do it the way it was done, with an obviously political motive, of course it causes problems*"[118].

The accusations were supported by the evidences that Gazprom increased the prices for gas for almost all the CIS countries that slowly drifted away from Moscow sphere of influence. The trans-Caucasian countries like Armenia, Azerbaijan and Georgia underwent increase in gas prices of almost $110 for thousand cubic metres, whereas for Moldova it was settled a new agreement that provided energy supply under a joint venture operated by Naftogas and RosUkrEnergo. Only Belarus continued to keep the previous price of $46 thousand cubic metres, since Russia aimed at increase its economic cooperation with Minsk.[119].

The crisis had a strong impact in the energy security strategies of both the European Union and Russia. The former started to develop new plans for energy supply diversification, since it could no more rely exclusively on Russian gas. Moscow, on the other hand, directed its resources on new pipelines projects that would bypass the Ukrainian territory (like the North Stream pipeline crossing the Baltic States).

2.2.2. Gas Dispute of 2009

At the end of 2007 signs of a new crisis could be foreseen. The Russian gas company Gazprom announced that it would have raised the prices for natural gas to Ukraine from $130 thousand cubic metres of the previous year, to almost $180. Moreover, all the gas imports at the Ukrainian border had to be sold by RosUkrEnergo to Ukrgaz-Energo (a joint venture founded after the 2006 crises).

Meanwhile, on December 2007, Yulia Timoshenko was re-elected as Prime Minister of Ukraine, under the Presidency of Yushchenko. Her political orientation

---

6112794.html (accessed in date 02/05/2017).

[118] US Department of State (2001), *Remarks at the State Department Correspondents Association's Inaugural Newsmaker Breakfast,* Archive, January: Washington D.C.

[119] Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: Oxford Institute for Energy Studies.

was influenced by an anti-Russian sentiment, and she is one of the most famous promoters for the alignment of Ukraine with the European Union.

Prime Minister Timoshenko was very critical of Gazprom, especially for what concerns the supply of gas into Ukraine from Ukrgaz-Energo, and she supported the decision by Naftogaz of avoiding any sales contract with the former. This was followed by accusations from Gazprom against Ukraine for out-taking gas without any legal contract, and therefore those actions were illegal.

Before the scenario started to be irremediably compromised, President Yushchenko asked for a meeting with his Russia counter-part that was held on 12 February 2008. The main requests were to:

- "*replace RosUkrEnergo, from 2009, by a trader owned jointly by Gazprom and Naftogaz*."
- "*the Ukrgaz-Energo would be replaced by Naftogaz as the importer of Central Asian gas*."[120]

However, no compromise was reached, and the deal never came into effect. Gazprom started to put pressure on its neighbour slowing the flows of gas in the pipelines passing through Ukraine. "*Naftogaz responded by warning that if Russia could not guarantee supplies to Ukraine, Naftogaz could not guarantee transit of volumes to Europe*"[121].

Both parties seemed to agree on avoiding a direct conflict like the one of 2006. The levels of gas supply slowly came back to normality. Ukraine agreed on direct participation of Gazprom into its energy market and new dealings started regarding the transit fee prices and the trade price for gas.

Major developments came in October 2008, when the conclusions of the negotiations were formalised and signed by both the Prime Minister of Ukraine, Yulia Timoshenko, and the newly Prime Minister of Russia, Vladimir Putin (at the

[120] Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: Oxford Institute for Energy Studies.
[121] Olearchyk R, Belton C. (2008), "Kiev and Gazprom end standoff", in *Financial Times*, 6 March.

time the President of Russia was Dimitry Medvedev). "*The Putin-Timoshenko memorandum*" included the following provisions:

- It would be replaced Ukrgaz-Energo from 1 January 2009. This would allow Naftogaz to buy directly natural gas from Gazprom.
- "Import prices and transit tariffs to be raised step by step to 'market, economically based and mutually agreed levels' within 3 years"[122].
- The gas that is intended to be exported into the European market would have to be operated jointly by Gazprom and Naftogaz.

Those points have been later agreed by the CEO of Gazprom, Alexis Miller, and the former CEO of Naftogaz, Oleg Dubyna. The agreement, signed on October 24, called "*On the Principles of Long-Term Cooperation in the Gas Sector",* also annulled the *"January 2006*". However, the question regarding RosUkrEnergo's sales of Turkmen gas in central Europe remained unclear.

It is hard to explain, at this point of the analysis, why the two parties couldn't reach an agreement on gas prices and transit tariffs after the positive results of the previous months.

Unfortunately, in order to have a clearer vision of the situation, it would be necessary to have the access to the private documents of Gazprom and Naftogax. Nonetheless, we can still outline what are the most evident conclusions trough the public material available and the historical facts.

One of the main problems was the inability by Naftogaz to pay its debts for gas delivered. At the deadline of 30 October established by the agreement "*On the Principles of Long-Term Cooperation in the Gas Sector*", a large part of the Ukrainian debt had not been paid yet. "*During November, a $268.7 million payment was made, out of $550 million owing for September*"[123].

[122] Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: Oxford Institute for Energy Studies.
[123] Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: Oxford Institute for Energy Studies.

The conflict deteriorated when in December 2008 Gazprom stated that Naftogaz had in total accumulated a debt equal to $2.195 billion[124]. Ukraine tried to settle the question of debt, paying in the same month other $800 million, and promised to give ¼ more of the same price as soon as it could.

However, at this point the crisis was irremediable and the conflict gained the attention of the mass public, with both the parties alleging accusations in the public medias against each other. On 19 December Gazprom declared: "*Ukraine had stated that no new payments would be made until the end of 2008, in this case – and if no other ways of settlement other than cash payment will be agreed – no supply contract could be signed for 2009*"[125]. On 1st January 2009 officially started the cut of supplies directed towards the Ukrainian consumption and consequently to the European one.

The Ukraine gas crisis of 2009 lasted almost 20 days. Russia cut on 1st January 2009 all the gas supplies to Ukraine, where at the same time maintaining the supplies to Europe. After 4 days, the Kremlin accused Kiev of having stolen gas from the transit pipelines. Moscow publicly stated that Ukraine stole around "*65.3 million cubic metres of gas that were directed towards its European customers*"[126] from RosUkrEnergo Through Ukraine passed almost 16% of the natural gas consumed by Europe[127] brought by the two main pipelines "Bratstvo" (Brotherhoods) and "Soyuz" (Union).

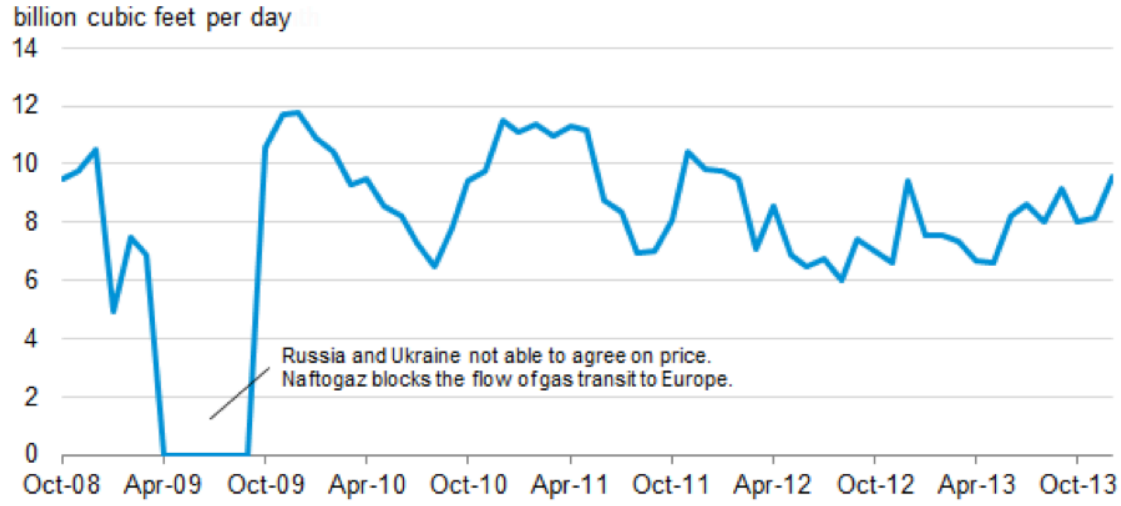
[124] Macalister T. (2008), "Russia-Ukraine Crisis: Kiev Inches Towards Deal with Gazprom", in *The Guardian,* 30 December.
[125] Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: Oxford Institute for Energy Studies.
[126] BBC (2009), "European Gas Supplies Disrupted", in *BBC News*, Internet: http://news.bbc.co.uk/2/hi/europe/7812860.stm (accessed in date 20 May 2017)
[127] Energy Information Administration (2014), "16% of Natural Gas Consumed in Europe Flows through Ukraine", *Today in Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=15411 (accessed 01/03/2017).

Fig 6: "Gas Pipelines Transit through Ukraine"

Source: "U.S. Energy Information Administration, IHS EDIN, and International Energy"

On 7th January 2009, when the delivery of Russian gas to Europe passing through Ukraine were completely cut off, many eastern European States found themselves with a completely short off of supplies.

Graph. 4: "Russian Natural Gas Exports to Europe through Ukraine (October 2008- December 2013)



Source: "U.S. Energy Information Administration, International Energy Agency, and Eastern Bloc Energy"

At the time of the dispute, since the "NordStream" pipeline was not operative, "*as much as 80% of Russian natural gas exports to Europe transited Ukraine*"[128]. The drastic interruption of supplies mainly affected those Southern Eastern European countries who are highly if not entirely dependent on Russian gas importations.

Table 5: "The position of European Countries Affected by Interruption of Russian Supply – January 2009"

"Country	Cut	Diversification	Gas storage
Bulgaria	100%	No diversification	Gas storage for 2–3 days, covering 35% of gas demand
Slovakia	97%	No diversification	Gas storage for several weeks, covering 76% of gas demand
Greece	80% BD and TR	Only LNG terminal, fully capable, booked more ships	Only in LNG terminal
Austria	66%	Increased import from Norway and Germany	Gas in storage for several weeks
Czech Republic	71%	Increased import by 8 mmcm/day from Norway, and via Yamal/Germany	Gas from storage 40 days, 15% increase of domestic production
Slovenia	50%	Gas from Algeria via Italy, and from Austria but not increased amount	Gas from storage in Austria till Monday then possible decrease of supply by another 20%

[128] Energy Information Administration (2014), "16% of Natural Gas Consumed in Europe Flows through Ukraine", *Today in Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=15411 (accessed 01/03/2017).

Hungary	45%	Increased gas from Norway by 5%	Gas storage for 45 days
Poland	33%	Half of the cut covered by Yamal, more gas from	Gas storage for several weeks
Germany	60% cut in Southern Germany, 10% total	+20 mmcm receiving from Yamal, more from Norway and Netherlands	Gas storage for several weeks
Italy	25%	Increased import from Libya, Norway, and Netherlands	79% full, covers 50% of demand
France	15%	Industry covered	80% full" [129]

Source: Gas Coordination Group, *Member State General Situation According to Significance of Impact*, Memo 09/3, Brussels, 9 January 2009

The consequences of the crises, from a European point of view, were that Gazprom couldn't be considered a reliable partner, and its reputation as a stable supplier has been drastically damaged. As the foreign minister of Czech Republic Karl Schwarzenberg stated: "*The main lesson learned from this crisis is that Russia and Ukraine aren't reliable suppliers. Europe must think about alternative sources and pipelines*"[130].

However, Russia and some of the Western European Member States are nowadays increasing their energy ties and therefore their interdependence. What emerges is then a dichotomy of interests between what is expressed by Brussels, with its major statements advocating for an energy diversification strategy, and the actions and willingness of other Member States, which are moving towards an opposite direction.

The crisis was finally resolved on 19 January 2009 when Prime Ministers Vladimir Putin and Julia Timoshenko met and signed an agreement. Moreover, the

[129] Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment", *Working Paper NG No.27,* February: Oxford Institute for Energy Studies.
[130] Committees of External Relations (2009), *Czech Presidency faces up to Gaza and gas disputes,* European Parliament Press Release, 21 January, Brussels.

CEO of Gazprom and its counterpart of Naftogaz discussed and signed an articulated contract that should have lasted until 2009-2019 where they agreed on gas prices and transit tariffs.

Moscow started to faster its strategy focused on by-passing the Ukraine territory through the construction of new pipelines that would supply Europe, like the North Stream that will be operative in 2011, and speed up the works for the South Stream project (in August 2009 Putin and the President of Turkey Erdogan, with the presence of Prime Minister of Italy Berlusconi, signed the agreement that allowed the South Stream to pass through Turkish seas)[131].

[131]Euractiv (2009), "Putin and Berlusconi Seal 'South Stream' Pipeline Deal", *Med & South,* Internet: http://www.euractiv.com/section/med-south/news/putin-and-berlusconi-seal-south-stream-pipeline-deal/ (accessed in date 06/05/2017).

2.3. The Ukraine Crisis of 2014

In order to understand the current energy situation of the European Union and its strategy towards Moscow, it is worth to explain the last Ukrainian crisis and how energy relations developed after that. Understanding the 2013/2014 events is of particular importance not just under an energy point of you, but for a broader understanding of the current international political scenario. There are two fundamental events that are worth to be mentioned in order to understand the outbreak of the crisis: the European Eastern Partnership and the NATO enlargement.

2.3.1. Eastern Partnership

The European Union "*Eastern Partnership was created to strengthen ties with six countries to the east of the EU: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine*"[132]. The aim of the partnership is to increase the relations with those Eastern European countries through economic agreements and the promotion of fundamental values such as democracy and human rights. It can be considered as a complementary action to enforce the "*European Neighborhood Policy (ENP)*", but directed to those countries of a strategic relevance for the Union especially after the Caucasian crises and the gas disputes between Russia and Ukraine.

In May 2009, the Council of the European Union held in Prague a joint declaration in which was stated the ideal and scope of the Eastern Partnership. "*The main goal of the Eastern Partnership is to create the necessary conditions to accelerate political association and further economic integration between the European Union and interested partner countries*"[133]. Following this aim, the Union would practically support and help the processes of socio-economic reforms of those countries, suggesting the European standard.

[132] European Commission (2017), "Eastern Partnership", *European Neighborhood Policy and Enlargement Negotiations*,Internet: https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/eastern-partnership_en (accessed in date 08/05/2017).
[133] Council of the European Union (2009), *Joint Declaration of the Prague Eastern Partnership Summit,* Press, May, Brussels.

The EU Eastern Partnership (EaP) aims at accelerating the already existing relation with the individual partner countries, introducing Deep and Comprehensive Free Trade Area and visa-free regimes. The "*bilateral cooperation under the Eastern Partnership umbrella should provide the foundation for Association Agreements between the EU and those partner countries who are willing and able to comply with the resulting commitments*"[134]. The EaP targets countries that were part of the Soviet Union and that now are considered by Moscow as inside its natural sphere of influence.

The understanding of the EaP from a Russian perspective is that one of a threat by the European Union that aims of reducing the influence of the Kremlin as the priority partner for those states, enlarging its economic and political influence to Russian's borders. The fear that the EU would try to create its own sphere of influence into those post-Soviet countries was confirmed in 2013, when in the Vilnius EaP summit of 28th November, Ukraine was more than ever nearer in signing an Association Agreement with the EU[135]

The Kremlin did not welcome the possibility of a greater alignment between Ukraine and the European Union. According to Moscow, the Association Agreement was nothing more than a first step towards a possible accession of Kiev into the Union. Even though this understanding of the EaP in general is not completely right, the possibility for Ukraine to become a full Member State were relatively low, the detachment of Kiev from Russia would directly affect the Putin's project of a strong Eurasia and make useless the Customs Union.

President Yanukovych tried to negotiate Ukraine strategic position with both the parties, with the aim of improving its position with the European Union and at the same time maintaining its historical advantages with Russia. However, the Kremlin could not more accept this scenario and started to make pressure on Yanukovych in order to refuse the Association Agreement with the EU.

---

[134] Council of the European Union (2009), *Joint Declaration of the Prague Eastern Partnership Summit,* Press, May, Brussels.

[135] Lithuanian Presidency of the Council of the European Union (2013), "Joint Declaration of the Eastern Partnership Summit, Vilnius, 28-29 November 2013", *Archives*, Internet: http://www.eu2013.lt/en/news/statements/-joint-declaration-of-the-_eastern-partnership-summit-vilnius-28-29-november-2013 (accessed in date 08/05/2017).

The soft power coercive measure used by Moscow in order to convince Yanukovych to not accept the EU offered was again gas. In exchange to refuse a further alignment with the European Union, the Kremlin offered to buy $15 billion of Ukrainian government bond and discount the price of gas for almost 1/3[136]. This "aid package" was justified by Moscow as a new policy program that would help to boost the economies of the ex-Soviet republics[137]. As former Ukraine's Prime Minister Mykola Azarov said, the agreement would create "*exceptionally beneficial conditions for crediting Ukraine's economy, which allows us to carry out wide-ranging plans for economic modernization*"[138].

The acceptance of the offer by former Ukrainian president was not welcomed by many citizens, who started to protest in the main square of Kiev in favour of an alignment with the European Union. Those protests broke out into a real revolution and culminated with the escape of Yanukovych from the country and the establishment of a new government. Shortly after February 22 Putin "*ordered Russian forces to take Crimea from Ukraine, and soon after that, he incorporated it into Russia*"[139].

2.3.2. NATO Enlargement

The NATO had put forward during past years the idea of a possible enlargement into Eastern Europe, therefore expanding itself towards the Russian borders. On April 21, 2005, it was held a meeting in Vilnius where "*NATO invited Ukraine to begin an 'Intensified Dialogue'... without prejudice to any eventual Alliance decision*"[140].

---

[136] BBC (2013), "Russia Offers Ukraine Major Economic Assistance", Internet: http://www.bbc.com/news/world-europe-25411118 (accessed in date 09/05/2017).

[137] DW (2013),), "Russia Makes $15 billion, Gas Discount Commitments to Ukraine", Internet: http://www.dw.com/en/russia-makes-15-billion-gas-discount-commitments-to-ukraine/a-17303930 (accessed in date 09/05/2017).

[138] Walker S. (2013)"Vladimir Putin Offers Ukraine Financial Incentives to Stick with Russia", in *The Guardian*, Internet: https://www.theguardian.com/world/2013/dec/17/ukraine-russia-leaders-talks-kremlin-loan-deal (accessed in date 12/05/2017)

[139] Mearsheimer J.J, (2014), "Why the Ukrainian Crisis Is the West's Fault", in *Foreign Affairs,* September/October Issues.

[140] NATO (2005),"NATO Launches 'Intensified Dialogue' with Ukraine", Internet: http://www.nato.int/docu/update/2005/04-april/e0421b.htm (accessed in date 12/03/2017).

The relations with NATO deteriorated with the Russo-Georgian war of August 2008. At the end of 2007 the Bush administration made clear its intention to expand NATO influence to Georgia and Ukraine offering the Membership Action Plans (MAPs)[141], which eventually was rejected by Germany and France who were aware of its negative consequences for Russia.

Moreover, on 17 February 2008, Kosovo declared its independence from Serbia encouraged by the U.S. and its European allies. It marked the first time that the U.S. and its allies recognize the status of State for a country that unilaterally seceded from a U.N. member state[142]. Logically, Russia contested this decision appealing to its veto power in the U.N. in order to block any membership for Kosovo.

Moscow increased its military presence in Caucasian territories that where considered in danger, like Abkhazia and South Ossetia, which eventually triggered the reaction of Georgia.

Those events lead to the Russo-Georgian war that lasted 5 days, and saw an increase of tensions between Russia and NATO, after the latter increased its naval presence in the Black Sea. However, after the election of Obama as the new president of the United Sates and "*his administration commitment to a 'reset' with Moscow*"[143], the relations seemed to go towards normalization.

One of the main goals in Putin's third term presidency was to create and consolidate the Eurasian Union. This would be possible through the "*Eurasian Economic Union*" (founded in 2015), which provides for a custom union for its five Member States.

The Eurasian Union works closely with the Collective Security Treaty Organization (CSTO), as the Euro-Asiatic equivalent of the joint combination of EU and NATO. The CSTO in fact is an intergovernmental military alliance that

[141] Friedman B.H., Logan J. (2009), "Hitting the 'Stop' Button on NATO Expansion", *IA Forum NATO at 60 Spring*
[142] Walker E.W. (2015), "Between East & West: NATO Enlargement & the Geopolitics of the Ukraine Crisis", *E-International Relations,* Internet: http://www.e-ir.info/2015/04/13/between-east-west-nato-enlargement-the-geopolitics-of-the-ukraine-crisis/ (accessed in date 10/05/2017).
[143] Harding L. (2009), "Barack Obama Calls for 'Reset' in US-Russia Relations", in *The Guardian*, 7 July.

comprises six Member States: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan, and its work is really similar to that one of NATO.

An important condition for this project was the inclusion of Ukraine, both for security measures and for their common historical roots and background. It is not surprising that Moscow used all its soft power measures in order to convince Yanukovych to accept their offer instead of the Association Agreement ("*the EU insisted that signing the association agreement would preclude Kiev from joining the Eurasian Economic Union*"[144]).

Finally, the fears of Moscow regarding a further enlargement of NATO are real ones. Montenegro just recently ratified NATO membership, and the presence of the North Atlantic Organization is evidently increasing in Georgia, where in April 2017 was held the 10th anniversary of the "NATO Days"[145].

2.3.3. Consequences of the Crises

The combination of NATO expansion and the EaP have contributed to the current geopolitical scenario and the out broke of a war in Europe. The events that characterized this crisis are the Euromaidan uprising in Kiev, followed by a civil war between the protestors and the "anti-Maidan forces collocated in eastern and southern Ukraine". After the escape of Yanukovich, a strongly anti-Russian government was temporarily formed. The response by Moscow was to annex Crimea and to carry on a strategy of destabilization within Ukraine's southern and eastern regions.

One of the immediate countermeasures adopted by the Western powers was to apply economic sanctions against Russia, both from the European Union and the United States. The sanctions imposed by the EU targets:

- "*Individuals and legal entities that have been involved in actions undermining*

[144] Walker E.W. (2015), "Between East & West: NATO Enlargement & the Geopolitics of the Ukraine Crisis", *E-International Relations,* Internet: http://www.e-ir.info/2015/04/13/between-east-west-nato-enlargement-the-geopolitics-of-the-ukraine-crisis/ (accessed in date 10/05/2017).

[145] Georgia Today (2017), "Georgia Marks 10th Anniversary of NATO Days This Week", Internet: http://georgiatoday.ge/news/6231/Georgia-Marks-10th-Anniversary-of-NATO-Days-This-Week (accessed in date 13/05/2017).

or threatening the territorial integrity, sovereignty and independence of Ukraine may be listed and have their assets in the EU area frozen";

- "*The ban into the EU of foods coming from Crimea or Sevastopol*";
- "*Economic sanctions against Russia restricting the use of EU financial markets, and prohibiting the export of armaments and dual-use goods and of equipment and services to the oil industry*"[146].

Those measures, which have been implemented gradually and in different phases, came along with the U.S. economics sanctions:

- "*Asset freezes for specific individuals. Assets of individuals close to Vladimir Putin have been frozen. US individuals and entities are prohibited from conducting financial transactions with them*";
- "*Asset freezes for specific entities, particularly state-owned banks, energy companies and arms producers*";
- "*Restrictions on financial transactions with Russian firms in finance, energy and defence*";
- "*Restrictions on exports of oil-related technology*";
- "*Restrictions on exports of dual-use technology*"[147].

The official reason that justifies the sanction regime imposed by the Western powers against the Federation was the illegitimacy of the Crimean referendum, the following illegal annexation of Crimea, and the continuous support by Moscow to the pro-Russian separatists within Ukrainian territory.

The sanctions are imposed on Russia are not conceived as a short-term resolution of the crisis but they look more like an instrument to slow down the economic development of the country. The sectors more hit are those of banking, finance, defence, high tech and energy.

---

[146] Olsson P., Oxentstierna S. (2015*),* "The Economic Sanctions Against Russia: Impact and Prospects for Success", *FOI-R-4097-SE,* September: FOI.

[147] Olsson P., Oxentstierna S. (2015*),* "The Economic Sanctions Against Russia: Impact and Prospects for Success", *FOI-R-4097-SE,* September: FOI.

The desired effect is to cause problems in the long term for Russia, blocking its financial assets and therefore slowing down those infrastructures projects that are essentials for the modernization of Russia[148].

The Kremlin counter-action was the adoption of a series of counter-sanctions aimed at targeting the agricultural sector. On 7th August 2014 "*the Russian Federation imposed a ban on imports of certain raw and processed agricultural products as an 'application of certain special economic measures to ensure the security of the Russian Federation'*"[149].

Many scholars have highlighted a positive domestic side effect of the counter-sanctions wanted by the Kremlin. In fact, Russia can now develop locally the production of those agricultural goods that used to be imported.

This policy, called "import-substitutions", is already showing its first results. The minister of agriculture Evgeny Gromyko stated: "*Domestic products have saved Russia almost $4 billion dollars. This is what we call import substitution, that is, Russian cheeses, sausages and other products that substitute for products that earlier were imported*"[150].

However, the combination of Western sanctions and fall in world oil prices strongly affected the economy of Russia, which was evident in the depreciation of the national currency. Even if it is true that the ruble devaluation favoured the exports of different goods from oil and gas or wood-processing sector, the high inflation strongly hit the purchasing power of many Russian citizens:

[148] Crozet M., Hinz J. (2016), "Friendly Fire: The Trade Impact of the Russia Sanctions and Counter-Sanctions", *Kiel Working Paper No. 2059*, November: Kiel Institute for the World Economy.
[149] CIS (2014), "Presidential Decree of the Russian Federation: August 6, 2014, No. 560", *CIS-Legislation*, Internet: http://cis-legislation.com/document.fwx?rgn=68933 (accessed in date 16/05/2017).
[150] Samofalova O. (2017), "Food Import Substitution Turns Out to Be Extremely Profitable", in *Russia Beyond The Headlines,* 9 February.

Graph. 5: "Russia Inflation Rate – 2012/2017"

Source: "TradingEconomics.com, Federal State Statistic Service - 2017"

In 2015, the general prices for goods and services increased by more than 16%, and the total gross domestic product decreased by more than 4% in the same year[151]. Nonetheless, the sanctions had contributed just in a minimum part to this economic crisis, which instead is the consequence of the fall in price of oil for a country whose oil and gas sector accounts to almost 16% of its total GDP and 68% of its total exports (data 2013)[152].

In conclusion, the obvious consequence of the crisis is the difficult deteriorating relationships between Ukraine and Russia. The Minsk agreement hardly will be fully implemented and the crisis risks to become a frozen conflict.

In terms of energy relations, Russia is trying to use all the Nord Stream capacity in order to by-pass Ukraine. The volume of Russian natural gas passing through Ukraine showed a downturn tendency since the gas dispute of 2006. In fact, it passed from "*128.5 bcm in 2006 to 67.1 bcm in 2015, and recovered by 22% to 82.2 bcm in 2016*"[153]. The last increase was mainly due to the higher energy demand by Europe available by lower gas.

[151] The World Bank (2015), "Inflation, GDP deflator (annual %)", *The World Bank IBRD-IDA*, Internet: http://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG (accessed in date 17/05/2017).
[152] EIA (2014), "Oil and Natural Gas Sales Accounted for 68% of Russia's Total Export Revenues in 2013", *EIA Today In Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 17/05/2017).
[153] Pirani S. (2017), "Adversity and Reform: Ukrainian Gas Market Prospects", *Energy Insight No.7,* March: The

Ukraine and Russia have a contract signed by Gazprom and Naftogaz until 2019. After 2020, the new pipelines "Turkish Stream" and "Nord Stream II" will further reduce the dependence from Ukraine of the Russian gas directed to Europe.[154]. However, the works for the Nord Stream II will be hardly completed within 2019. Some kind of arrangements must found between Russian and Ukraine in the time between the end of the contract and the completion of the Nord Stream II.

Finally, even when both pipelines will be operative, there are studies conducted by the IEA and the Oxford Institute for Energy Studies that suggest that Russia will keep use pipelines passing through Ukraine to supply countries like Slovakia and Hungary. Due to their geographical position, avoiding Ukrainian pipelines could result in an economic loss for Gazprom[155].

Oxford Institute of Energy Studies.

[154] Gazprom (2017), "Construction of TurkishStream Gas Pipeline's Offshore Section Commenced", *Gazprom News,* Internet: http://www.gazprom.com/press/news/2017/may/article329932/ (accessed in date 17/05/2017).

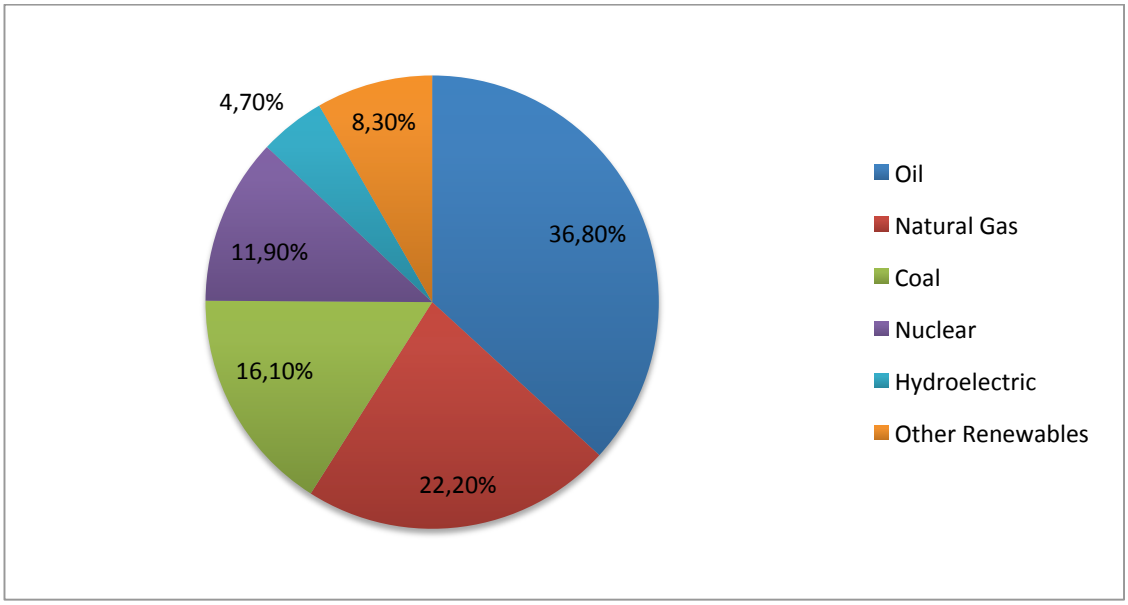
[155] Pirani S., Yafimava K. (2016), "Russian Gas Transit Across Ukraine Post-2019: Pipeline Scenarios, Gas Flow Consequences, and Regulatory Constraints", *OIES Paper: NG105*, February: The Oxford Institute for Energy Studies.

3. EU Needs of Energy

3.1 European Energy Logistics

The energy basket of the European Union highly depends on fossil fuels, which constitute more than 75% of its total energy demand[156]. Despite the major efforts put in place by the Commission in order to pursue sustainable energy policies; oil, natural gas, and coal still represents the major sources of consumption within the Union.

Graph. 6: "EU 28 Energy Consumption Mix – 2015"



Source: "British Petroleum Statistical Review of World Enerhy,65th ed. 2016"

Around 53% of the total energy consumed by the EU is imported, and costs approximately €1 billion per day ("around €400 billion in 2013")[157]. The EU imports:

- "90% of its crude oil"
- "66% of its natural gas"
- "42% of its coal and other solid fuels"

[156] Frappi C., Rossetto N. (2016), "Sicurezza Energetica", *Osservatorio Di Politica Internazionale* N.27, Luglio, Milano: ISPI.

[157] European Commission (2014), *European Energy Security Strategy*, Communication from the Commission to the European Parliament and the Council, May, Brussels.

- "40% of its uranium and other nuclear fuels"[158]

Table 6: "EU 28 – Energy Import Dependency by Fuel in % - 1995/2014"

	1995	2000	2005	2010	2013	2014
Total	43.1	46.7	52.2	52.6	53.1	53.5
Solid Fuels	21.5	30.6	39.4	39.5	44.1	45.6
of which Hard Coal	29.7	42.6	55.7	57.9	64.5	67.9
Petroleum and Products	74.1	75.7	82.1	84.5	87.4	87.4
of which Crude and NGL	73.0	74.4	81.3	84.6	88.0	87.9
Natural Gas	43.4	48.9	57.1	62.2	65.2	67.4

Source: "Eurostat – June 2016

The amount that each country depends on the importation of energy varies from Member State to Member State, consequently some are more vulnerable than others. This is particularly valid for those countries that do not have any natural resources within their territory.

However, the countries that are more exposed to energy security risks are those that have not diversified their energy imports but strongly depend on a single supplier. Among all the Member States "*6 depend from Russia as single external supplier for their entire gas imports and three of them use natural gas for more than a quarter of their total energy needs*"[159]. These are the Baltic States, Finland, Slovakia and Bulgaria.

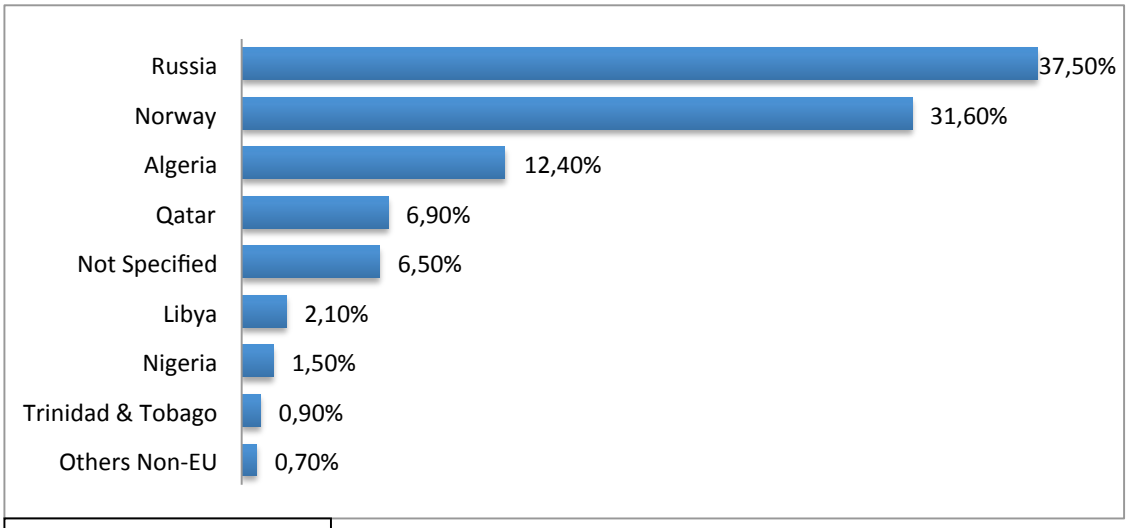
The latest data regarding the quantity of natural gas and oil imported from non-European Union members is available from the Eurostat report of June 2016. In total the EU-28 imported in 2014 a quantity of 11 796884 TJ-GCV of natural gas[160]. The

[158] European Commission (2017), "Imports and Secure Supplies", *European Commission Strategy,* Internet: https://ec.europa.eu/energy/en/topics/imports-and-secure-supplies (accessed in date 27 May 2017).
[159] European Commission (2014), *European Energy Security Strategy*, Communication from the Commission to the European Parliament and the Council, May, Brussels.
[160] European Commission (2016), "EU Energy in Figures", *Statistical Pocketbook 2016*, Internet: https://ec.europa.eu/energy/sites/ener/files/documents/pocketbook_energy-2016_web-final_final.pdf (accessed in date 27 May 2017).

main non-EU energy suppliers are the Russian Federation, Norway, Algeria, Libya, and Qatar (this last one through LNG system).

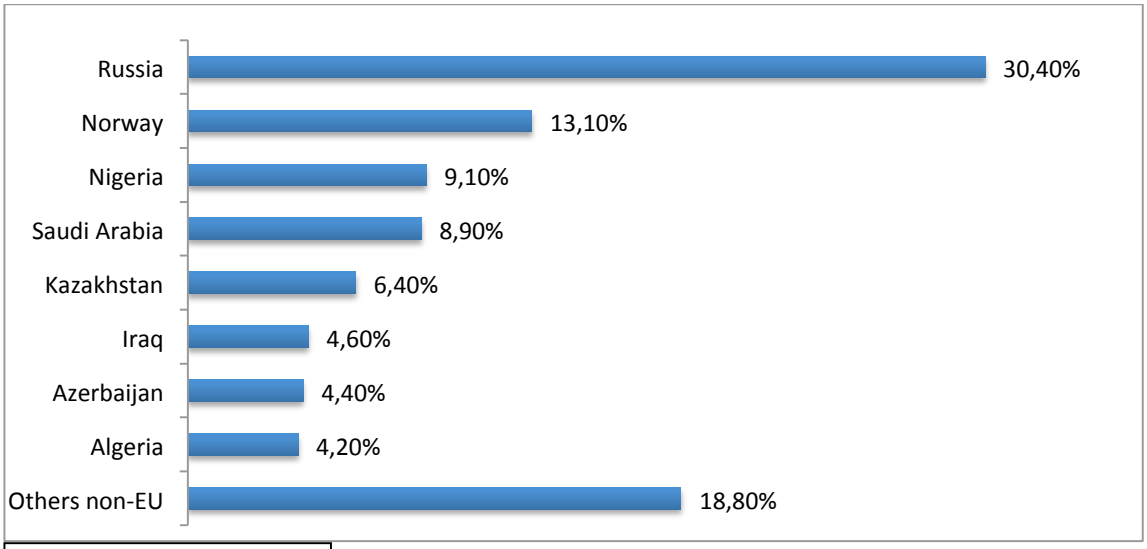
Imports of crude oil are also dominated by Russia and Norway, but with consistent quantity imported from other suppliers such as Saudi Arabia, Nigeria and Kazakhstan. In 2014 the EU-28 imported a quantity equal to 494 241 kton of crude oil.

Graph. 7: "EU-28 Imports of Natural from Non-EU Suppliers – 2014"



Source: "Eurostat – June 2016

Graph.8: "EU-28 Imports of Crude Oil from Non-EU Suppliers – 2014"



Source: "Eurostat – June 2016

From both graphs the fundamental role that Russia and Norway play in the energy supply to the European Union emerges. This becomes more relevant for what concern natural gas, where the discrepancy between the first two suppliers and the third is more than the double in terms of percentage.

The reason why diversifying supply in the natural gas sector is harder than that of crude oil, derives mainly from the means of transportation of those natural resources. Whereas oil can be extracted and then transported in barrels wherever the suppliers want, with natural gas the conventional process is different.

The most common way of transporting natural gas is through fixed pipelines extending from the country of production to the importer. The price of the gas is mainly determined on the basis of yearly contracts, and usually involves more than one party, since the pipelines often pass through more than one country before reaching the destination. This is one of the main reasons why pipelines are so important in geopolitical and security matters.

Another way of transporting gas is by liquefaction and subsequent transportation in the same way as oil is imported to the receiving country. However, with this method, regasification terminals are required in ports in order to be able to consume the gas in the conventional way. This process of extraction and transportation is generally called LNG, and could be a potential method of future gas diversification in Europe,[161].

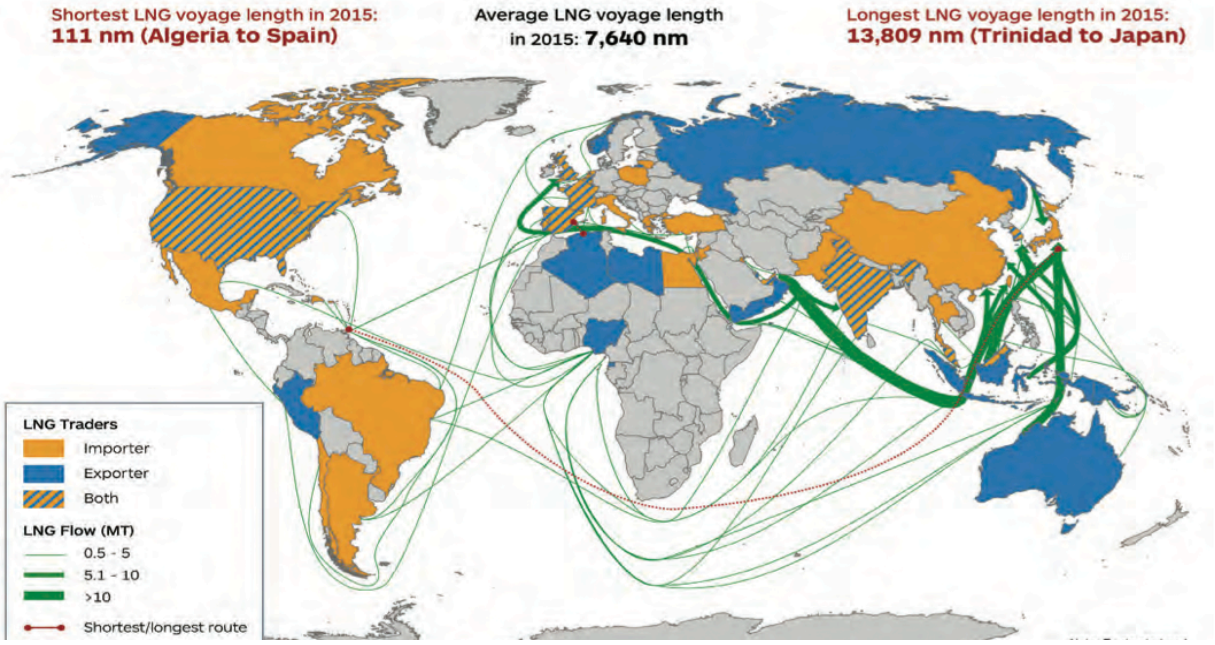
Nonetheless, the global LNG trade is expected to grow constantly over time. Many liquefaction capacities exist around the world, and others are planned for the near future. The World Energy Council predicts that in the next 15 years the trade for LNG will double, reaching levels of 660 billion cubic meters by 2030[162].

The main exporters of LNG in Europe are Algeria, Qatar, Trinidad & Tobago, Nigeria and Egypt. The UK, Italy, and Spain are the main destinations for LNG coming from Qatar, which is currently the leading exporter of LNG in the world with

[161] OPEC (2004), "Oil and Gas: the Engine of the World Economy", *Speeches 2004*, Internet: http://www.opec.org/opec_web/en/900.htm (accessed in date 20 May 2017).
[162] World Energy Council (2013), "World Energy Resources: 2013 Survey", England and Wales: World Energy Council.

a market share of 31.8% in 2015[163]. On the other hand, France, Spain and Turkey mainly import LNG coming from Nigeria.

Fig 7: "Major LNG Shipping Routes – 2015"



Source: "International Gas Union – 2016 World LNG Report

Despite the increasing share of the market that LNG is occupying, the predominant way of importing gas in Europe is still by pipelines. "*EU import pipeline capacity is 8776 GWh/day, roughly comparable to the capacity of LNG terminals (6170 GWh/day)*"[164].

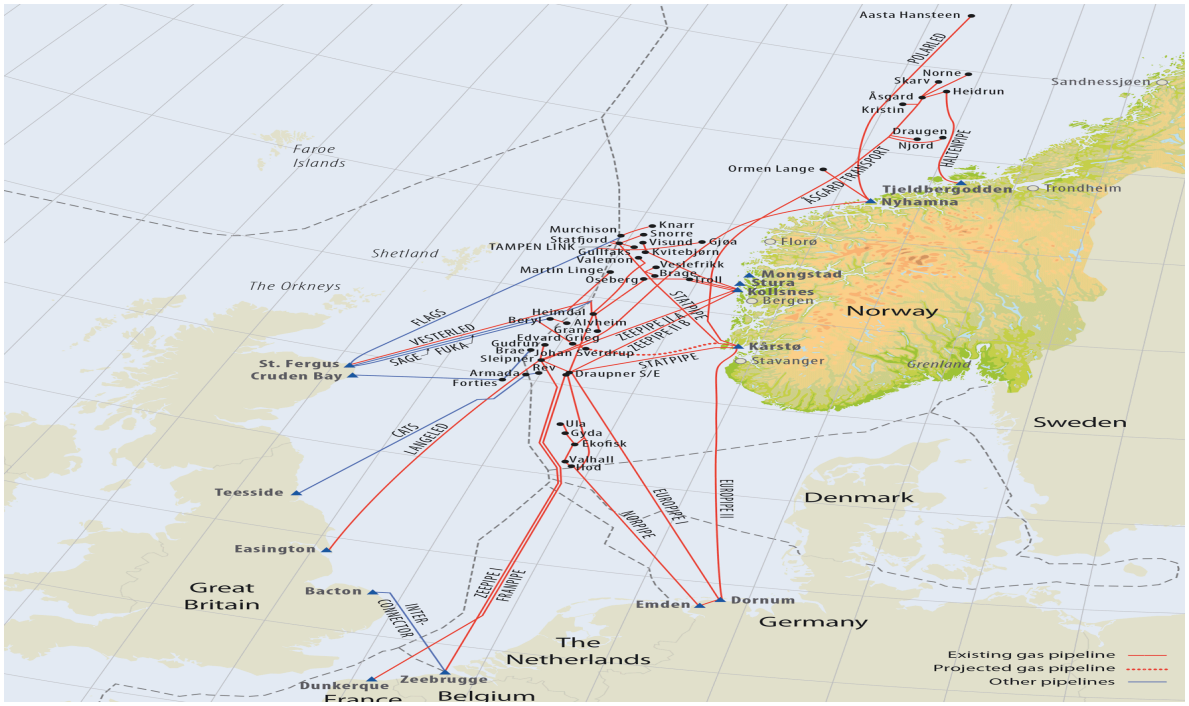
3.1.1. Norway

In 2015, Norway exported 114 billion cubic meters of natural gas. The value of total exports of crude oil and gas accounts for almost 39% of the total value of its exports[165]. They are directed primarily to the European market thanks to the

[163] International Gas Union (2016), "2016 World LNG Report", *LNG 18 Conference & Exhibition Edition,*
[164] European Commission (2014), *In-depth Study of European Energy Security*, Commission Staff Working Document, August, Brussels.
[165] Norskpetroleum (2017), "Exports of Oil and Gas", *Oil Pipeline in the Norwegian Shelf,* Internet: http://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/ (accessed in date 26/05/2017).

sophisticated cross-linked pipelines that reach Germany, the UK, Belgium and France.

Fig. 8: "Pipelines for Gas Export from the Norwegian Continental Shelf – 2017"



Norway is one of the safest and most stable non-EU energy suppliers for Europe. Due to its membership of the European Economic Area Agreement, Norway has incorporated the European Union energy market rules within its legislation[166].

In 2002, a political platform for energy cooperation with the name of EC-Norway Energy Dialogue was launched. The aim of the dialogue was and still is that of enhancing cooperation in: "*international energy issues, global energy supply and demand, policy developments in Norway and in the EU, implementation of EU energy rules in Norway, cooperation on technology, carbon capture and storage etc..*"[167].

Furthermore, the recent energy securities issues that have hit the European energy scenario have further strengthened the cooperation between Norway and the EU with the introduction in 2013 of the annual "EU-Norway Energy Conference".

[166] EFTA (2017), "European Economic Area Agreement", *EEA Agreement*, Internet: http://www.efta.int/eea/eea- agreement (accessed in date 26 May 2017).
[167] European Commission (2017), "Norway", *European Commission* Energy, Internet: https://ec.europa.eu/energy/en/norway (accessed in date 26 May 2017).

3.1.2. Algeria

The strong revolutionary atmosphere brought about by the Arab Spring at the end of December 2010, affected Algeria only slightly. Despite protests and riots that shook the country until 2012, a real revolution never happened, and so Algeria maintained political stability with its foreign partners.

In April 2002, Algeria signed an Association Agreement with the European Union, establishing a framework for cooperation in different areas, from security to trade. The latest achievements were occurred on 13th March 2017, when the EU and Algeria "*adopted their shared Partnership Priorities at the Association Council*"[168].

The Partnership Priorities are collocated in a framework that goes up to 2020 and focuses on cooperation in different areas: from socio-economic development, trade and access to the European single market, sustainability, the environment, and energy.

The strong and sound energy partnership between the two partners was confirmed with the signature of the July 2013 memorandum and it is evident by the continuous and regular high level of exchanges.

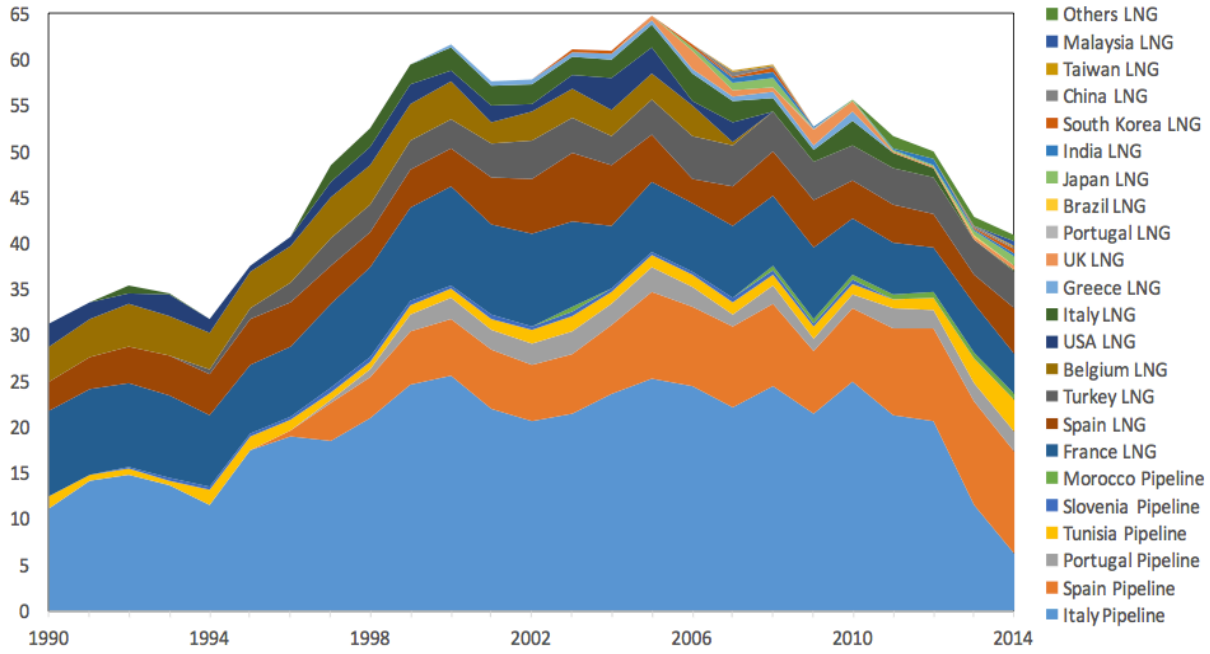
Miguel Arias Cañete, the current EU Commissioner for Energy and Climate Action, declared, speaking about the major opportunities offered by the Mediterranean for European energy diversification policies, that increasing energy relations with Algeria is a "*priority as mentioned in the Energy Union Strategy…. The strategic partnership between the two parties is a strong one, founded on mutual trust and common interests, and we wish to develop this relationship further*"[169].

Algeria is currently the EU's third largest energy supplier, with a total exchange value of €15,5 billion in 2016[170]. However, the country is facing a contracting supply that could undermine the future of its gas exports. It is estimated

[168] European Commission (2017), "Countries and Regions: Algeria", *European Commission Trade,* Internet: http://ec.europa.eu/trade/policy/countries-and-regions/countries/algeria/ (accessed in date 27 May 2017).
[169] The Parliament Magazine (2016), "EU-Algeria Relations: Reinforcing our Energy Partnership", Internet: https://www.theparliamentmagazine.eu/articles/feature/eu-algeria-relations-reinforcing-our-energy-partnership (accessed in date 27 May 2017).
[170] European Commission (2017), "Countries and Regions: Algeria", *European Commission Trade,* Internet: http://ec.europa.eu/trade/policy/countries-and-regions/countries/algeria/ (accessed in date 27 May 2017).

that total gas exports "*declined by 25.8 bcm from 2000 to 2015*"[171], partly affected by the decrease in the global energy demand after the economic crisis of 2008, by terminations or suspensions of contracts between Sonatrach (Algerian national energy company) and some of its partners, and a strong increase in Algerian domestic energy demand.

Graph. 9: "Sonatrach Gas Exports by Destination – 1990/2014"



Source: "Oxford Institute for Energy Studies – BP 2016"

The emerging scenario is one of an energy exporting country that is losing considerably its share of the market. The most relevant losses are towards its nearest European neighbours, namely Italy and Spain.

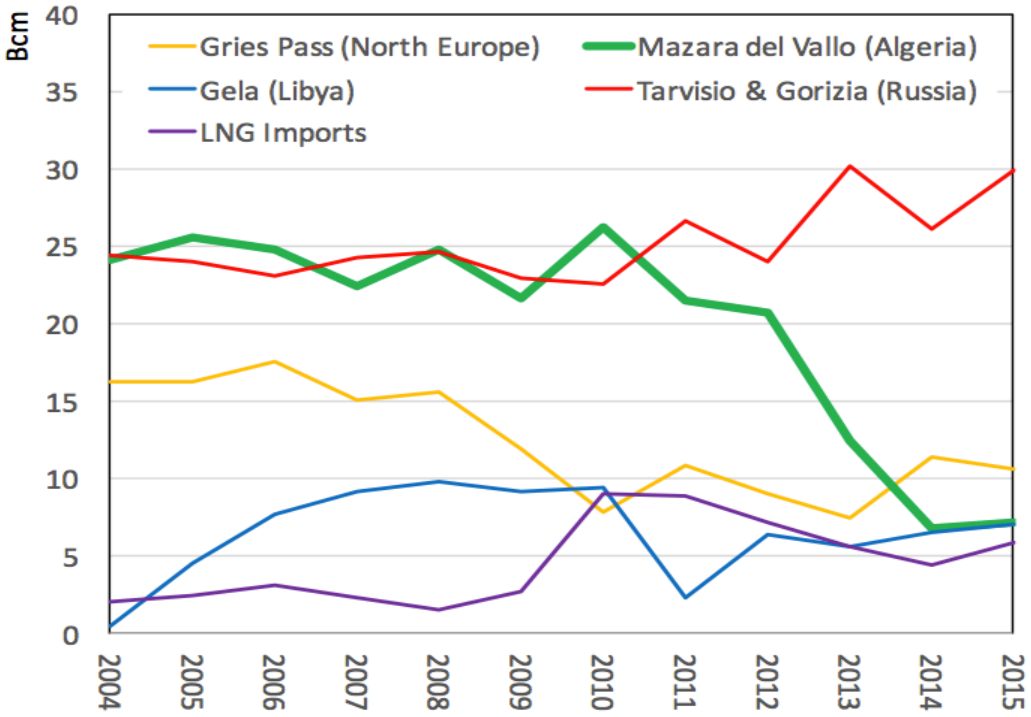
There are various reasons for this downturn in supply. First is the substantial decline in domestic production due to the slow progress in developing new methods for the extraction of gas. Second, there has been a rapid reduction of exports, which exceeds the increasing domestic consumption of gas, which has led to the remaining energy resources being used for the internal market.

[171] Aissaoui A. (2016), "Algerian Gas: Troubling Trends, Troubled Polices", *OIES Paper:* NG 108, May: The Oxford Institute for Energy Studies.

The most important losses are to be found in the Italian market, where Sonatrach was the first competitor of Gazprom. Until 2014, the two energy companies accounted in total for 1/3 of all the Italian gas imports. Between 2008 and 2012 Gazprom supplied to Italy a "*yearly averaged of 24bcm and Sonatrach a yearly average of 23bcm*"[172].

From 2012, the import of Algerian gas into Italy decreased considerably. It passed from 12.5bcm in 2013 to 6.8bcm in the next year[173]. On the other hand, the import from Gazprom increased from 26.2bcm in 2014 to 29.9bcm in 2015.

Graph. 10: "Italian Imports of Gas – 2004/2015"



Source: "ISPI, Snam Rete Gas - 2015"

This, if analyzed in relation to the European energy security strategy approach, which aims to decrease the EU energy dependence on Russia, is a cause for concern. If a diversification policy needs to be followed then stronger cooperation between the

[172] Aissaoui A. (2016), "Algerian Gas: Troubling Trends, Troubled Polices", *OIES Paper:* NG 108, May: The Oxford Institute for Energy Studies.
[173] IEA (2015), "World Energy Outlook", pp. 211.

EU and Algeria is necessary, with the former increasing its target investments in Africa in order to restore the previous levels of energy production.

3.1.3. Libya

The unstable political scenario in Libya represents a source of threat for the European Union, both from a security and energy point of view. In March 2016 "unity" government sponsored by the United Nations and headed by Prime Minister Fayez Sarraj was set up. However, both the former administration of Tripoli and of Tobruk are against recognizing its authority, creating de facto three main ruling authorities in the country.

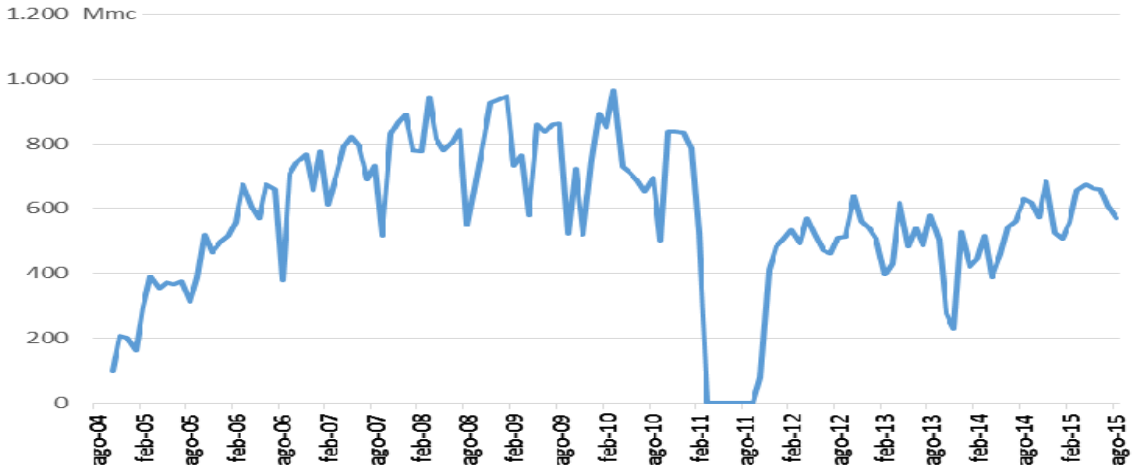
Between Libya and the European Union there is no Association Agreement. In 2004, negotiations for the Framework Agreement on trade started, but were cut off in 2011 after the beginning of the civil war and the following Western military intervention.

The outbreak of war drastically affected the supply of energy from Libya. Nevertheless, the exports of oil and gas were restored after a short period of crisis, with the Green Stream pipeline exporting natural gas to Italy at two thirds of its maximum capacity[174].

The exports of oil are mainly derive from the Eastern part of Libya and are controlled by the Tobruk administration. On the other hand, export of natural gas is exclusively conducted through the Green Stream pipeline that connects the Western part of Libya to Gela (a city situated in southern Sicily).

[174] Verda M. (2015), "Libia: il Ruolo delle Esportazioni Energetiche e l'Importanza per l'Italia", Internet: http://www.sicurezzaenergetica.it/2015/09/libia-il-ruolo-delle-esportazioni-energetiche-e-limportanza-per-litalia/ (accessed in date 22 May 2017).

Graph. 11: "Monthly Libyan Gas Imports to Italy – 2004/2015"



Source: "Sicurezza Energetica 2016"

Despite the strong political instability of the country, oil and gas still remain one of the main sources of revenues for Libya. In terms of energy security, Libya cannot be considered a completely safe energy provider (the halt in supplies in 2011 are evidence of this). However, data shows that the export level was restored in a short period of time, and despite the fact that Libya is still ruled by different factions, the flows has continued on a regular basis.

3.1.4. Russia

The energy partnership that is at the core of Russia-EU relations is characterized by mutual interdependence. The Union needs Russian energy; in fact the Federation occupies the first position as exporter for both natural gas and oil. On the other hand, Russia needs access to the EU market in order to obtain safe and consistent revenue.

Russia's major natural gas pipelines are situated in the western part of the country and vary in their potential total capacity and the different countries they pass through. Currently, the main four pipelines that carry Russian gas to Europe are:

- "Soyuz and Brotherhood": with a total capacity of more than 3.5 trillion cubic feet per year and a length of almost 4500 km are the biggest pipeline systems

(both in terms of capacity and length) connecting Russia to Europe, and passing through Ukraine. Soyuz and Brotherhood are the first major natural gas export lines to Europe, built during the Soviet era[175]. However, after the Ukraine gas disputes, the flows passing through those pipelines reduced drastically, going from "*128.5 bcm in 2006 to 67.1 bcm in 2015, and recovered by 22% to 82.2 bcm in 2016*"[176].

- "Yamal-Europe": which supplies Germany and Poland, and passes through Belarus, with a total capacity of 1.2 trillion cubic feet per year

- "Nord Stream": became fully operational in 2011, and connects Russia to Germany passing through the Baltic Sea. The pipeline was designed in line with the Russian policy to bypass Ukraine and directly supply the northern part of Europe (the Nord Stream passes through international waters). It has a total capacity of 1.9 trillion cubic feet per year, and soon will complemented by the Nord Stream 2.

- "Blue Stream": operating since 2003, carries Russian gas to Turkey passing through the Black Sea.

The two main other pipelines under construction that connect Russia to Western Europe are the Nord Stream 2, as above mentioned, and the Turkish Stream, an alternative project for the South Stream that aims at connecting Turkey and Europe making the former the main hub for Russian gas in Southern Europe. The South Stream, on the other hand, would have given this strategic role to Italy.

Finally, for what concerns the LNG market, Russia has only one operating export facility. The Sakhalin LNG, situated in the Eastern part of the Federation, and

[175] EIA (2017), "Russia", *EIA* Beta. Internet: https://www.eia.gov/beta/international/analysis.cfm?iso=RUS (accessed in date 29 May 2017).
[176] Pirani S. (2017), "Adversity and Reform: Ukrainian Gas Market Prospects", *Energy Insight No.7,* March: The Oxford Institute of Energy Studies.

has been operating since 2009[177]. Other LNG facilities are under construction, making Russia a future competitor within this sector. Future projects that need to be mentioned are the Yamal LNG and the Arctic LNG.

[177] EIA (2017), "Russia", *EIA* Beta. Internet: https://www.eia.gov/beta/international/analysis.cfm?iso=RUS (accessed in date 29 May 2017).

3.2 Energy Diversification Strategies

3.2.1. Dichotomy of Interests

Member States of the European Union vary considerably between from one to the other. This is true in terms of population, trade, economy, and energy requirements. For what regards the last parameter, major concerns arise regarding the different levels of infrastructures available to cope with a possible energy supply disruption.

Furthermore, differences are to be found between some European Eastern Member States and Western ones in terms of their energy security strategies, and particularly in their degree of exposure to a halt in energy supplies.

Whereas the Eastern European countries advocate for an increasing diversification strategy in order to reduce the imports of Russian natural gas, other Member States like Germany are increasing their cooperation with Moscow as it is proved by the construction of the Nord Stream 2.

This dichotomy of interests is, in my opinion, the major internal problem that the European Union needs to face if it really wants to follow a common energy policy. This conflict also exists between the "older" Member States. On the one hand, work on the Nord Stream 2 is continuing despite the major concerns of the Eastern Member States, whereas the South Stream pipeline project ended catastrophically for Italy.

The reason for the suspension of the project were political, and were officialised by the Bulgarian Minister of Economy and Energy in June 2014 after the breakout of tensions in Ukraine. The project was suspended by Russia and substituted with the Turkish Stream after the European Union declared that the pipeline would not have satisfied the new requirements of the energy security strategy for Europe[178].

The halting of the project has had many repercussions. First of all, it happened only a few months after the sanctions and can be construed as an anti-Russian

[178] UpStream (2014), "EU Calls for South Stream Suspension", Internet: http://www.upstreamonline.com/live/1157072/eu-calls-for-south-stream-suspension (accessed in date 28 May 2017).

political measure in response to the Crimean annexation. Second, it affected Italy directly, not only by taking away the opportunity for Italy to become the major energy hub of Southern Europe, but it put in jeopardy its energy companies operating in Russia.

Saipem, the Italian oil and gas industry contractor controlled by the energy giant ENI, saw itself losing the contracts already assigned for the South Stream for a value equal to almost €2,4 billion[179]. Since 2 operating vessels were already in the work field at the moment of the termination of the contracts, Saipem started legal proceedings against Gazprom, which is bound to compromise its future projects with Russia.

On the other hand, the Nord Stream 2 projects are continuing, even though is evident that they are not in line with the latest European Union energy strategy to diversify supply. Some of the main financial investors of the project are the Deutsch Shell, the German Wintershall and more recently the Austrian OMV[180]. These multinational energy companies are all part of the European Union, but unlike Saipem, they will see their profits increase thanks to the Nord Stream 2.Therefore, the divergence of interests is taking place at different levels, between Eastern and Western Member States, the Commission, and the most powerful Member States.

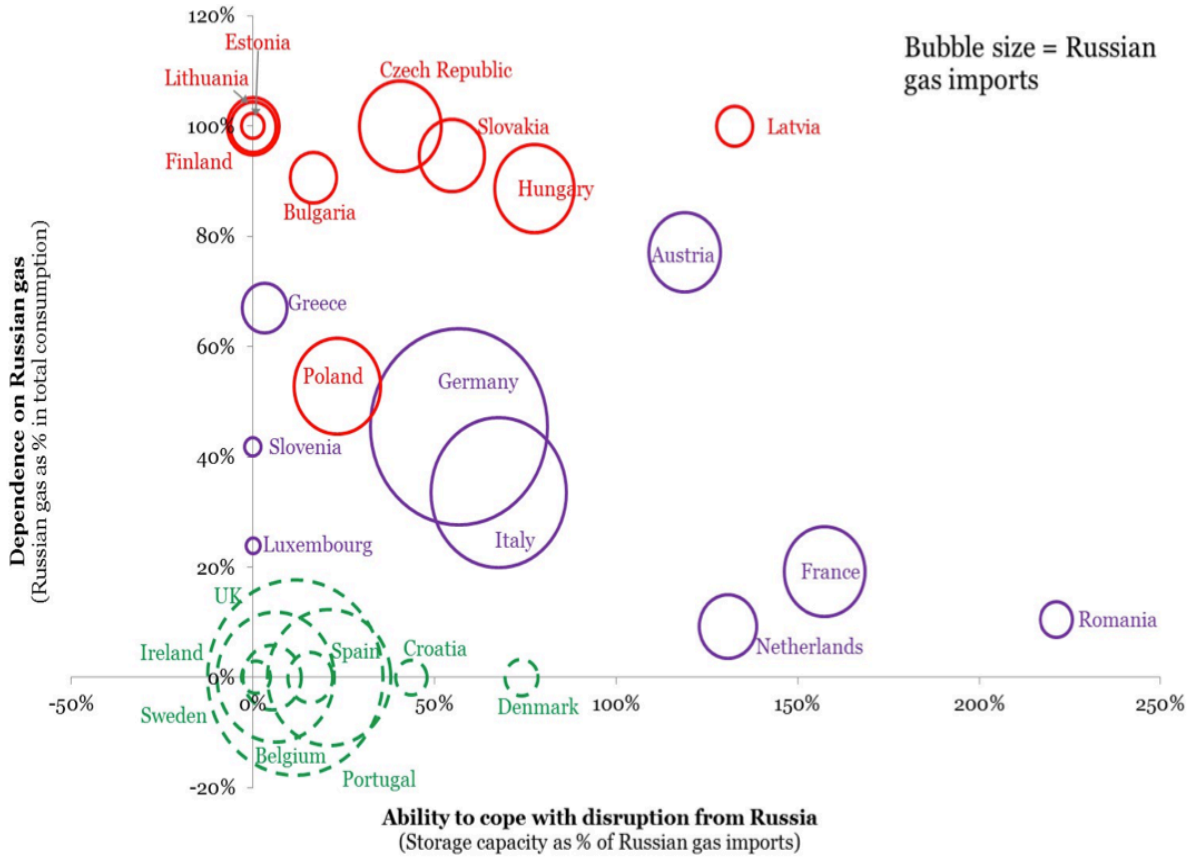
Eastern European countries depend heavily on the Russian supply of natural gas, and the consequent difficulties in following strategies for diversification are due to their historical ties with Russia, as most of them were countries once part of the Soviet Union, and therefore still rely on the pipeline systems built at the time of the USSR.

[179] Dominelli C. (2017), "Dal South Stream al TAP: le Vie del Gas tra Progetti Falliti e Nuove Rotte", in *Il Sole-24 Ore, 10 May*, Internet.
[180] Nord Stream 2 (2017), "Shareholder and Financial Investors", Internet: https://www.nordstream2.com/company/shareholder-and-financial-investors/#omv (accessed in date 27 May 2017).

Finland and the Baltic States in particular are the only European countries that import their entire natural gas consumption from Russia

[181]. Natural gas supplied to those countries either directly or through the Yamal-Europe pipeline system which passes through Belarus. Nonetheless, despite their 100% dependency on Russian gas, they would not be affected by a complete cut in energy supplies passing through Ukraine, since they obtain their supplies of natural gas through Belarus.

Graph. 12: "European Union's Member States Dependency on Russian Gas Imports – 2014"



Source: "IEA 2014 Natural Gas Information"

[181] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).

This graph is particularly useful in understanding the degree of dependency of the various Member States on Russia, but also serves to divide the Member States according to their interests in maintaining strategies to diversify the supply of energy.

The countries in green such as the UK, Spain, Denmark and others have no direct energy relations with Russia because they do not directly import natural gas from Russia and therefore have no formal contracts with Gazprom.

The purple ones, like Italy, France, Germany, Austria, import natural gas from Russia but are less vulnerable to a disruption in supplies. There are a variety of reason for this: either they have enough LNG facilities of their own (like France, Italy, Greece), or they have enough storage capacities, or lastly, because Russia occupies a marginal place in their energy mix.

Finally, countries highlighted in red, are those that are highly dependent on Russian gas and therefore seek to diversify their energy supply. However, because coal dominates the national energy consumption in some of these countries and the EU green energy policy requirements will oblige them to shift to different sources of energy, the most convenient and logical alternative is natural gas, making them more dependent on Russia and consequently making it more difficult for these countries to diversify their energy mix consumption.

The Commission, despite these substantial difficulties, released in 2014 the official energy security strategy of the European Union, which contains both guidelines for the implementation of internal infrastructures for the less developed Member States and strategies for diversification from Russian gas.

3.2.2. European Energy Security Strategy

The European Commission in 2014 developed the official energy security strategy of the European Union highlighting short, medium, and long-term actions that need to be implemented in order to face possible energy security concerns.

In the first chapter of this dissertation I talked about the stress tests put in place by the EU in order to understand if the Union would sustain a major disruption of Russian gas. What emerged is the ability by the Union to sustain a supply disruption

of energy for the duration of six months, even though some Eastern European countries would be strongly affected.

However, a longer disruption would no be sustainable due to insufficient diversification routes and not enough infrastructures within the Member States that would supplement the lack of gas caused by an unexpected disruption[182].

At the heart of the energy security strategy of the European Union lays the "*solidarity mechanisms*" among the Member States. A system based on an immediate and practical assistance to those Union's countries that are facing more problems in case of a disruption. It is not surprising then that this mechanism targets mainly the Eastern European Member States that are totally dependent on Russia.

The Union shall after proceed and implement its policies to moderate energy demand. The Member States, in order to increase their energy efficiency should speed up the measures to achieve the 20-20-20 targets, with the major goal to pursue the Energy Roadmap 2050. In order to achieve concrete energy savings there must be a clear identification of the main sectors that contribute to the overall consumption. The building sector for example is "*responsible for about 40% of energy consumption in the EU*"[183]. Industry, on the other hand, consumes around ¼ of the total natural gas used in the EU.

The Emission Trading System, a system of exchanging emission quotas introduced in 2005, can drive towards a more energy efficiency in the industrial sector "*The system works by putting a limit on overall emissions from covered installations which is reduced each year. Within this limit, companies can buy and sell emission allowances as needed*"[184]. Those measures should be complemented by the intervention of the European Structural and Innovation Funds (ESI), which directs investments that aim at triggering the private sector in developing new low-carbon technologies.

---

[182] European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.

[183] European Commission (2014), *European Energy Security Strategy,* Communication from the Commission to the European Parliament and the Council, May, Brussels.

[184] European Commission (2016), "The EU Emission Trading System (EU ETS)", *European Commission Climate Action,* Internet: https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf (accessed in date 19 April 2017).

The acceleration in the construction of cross-border interconnections between the Member States would accelerate the path towards the creation of an integrated internal market for electricity and gas. In 2014 the average interconnector level was at 8% of its installed electricity production capacity. The Commission set up the goal to achieve a 10% within 2020 and a 15% goal within 2030. "*The cost of this projects is estimated around €17 billion*"[185].

The European Union can diversify its supplies by increasing its own energy production. The increasing in production of renewable sources of energy, which in 2014 accounted for the 16% of European gross final energy consumption[186], combined with an increased use of nuclear energy, will reduce the external dependence from energy supply.

The onshore wind power represents a clear example of a kind of renewable source of energy that have the possibility to increase year-by-year its market share. Thanks to technology cost reduction its becoming more competitive and can constitute a green substitute of fossil fuels for the European market.

Following the argument of increasing renewable energy production within the Union as a form of energy diversification strategy allow us to look at the Energy Roadmap 2050 with a different critical analyses.

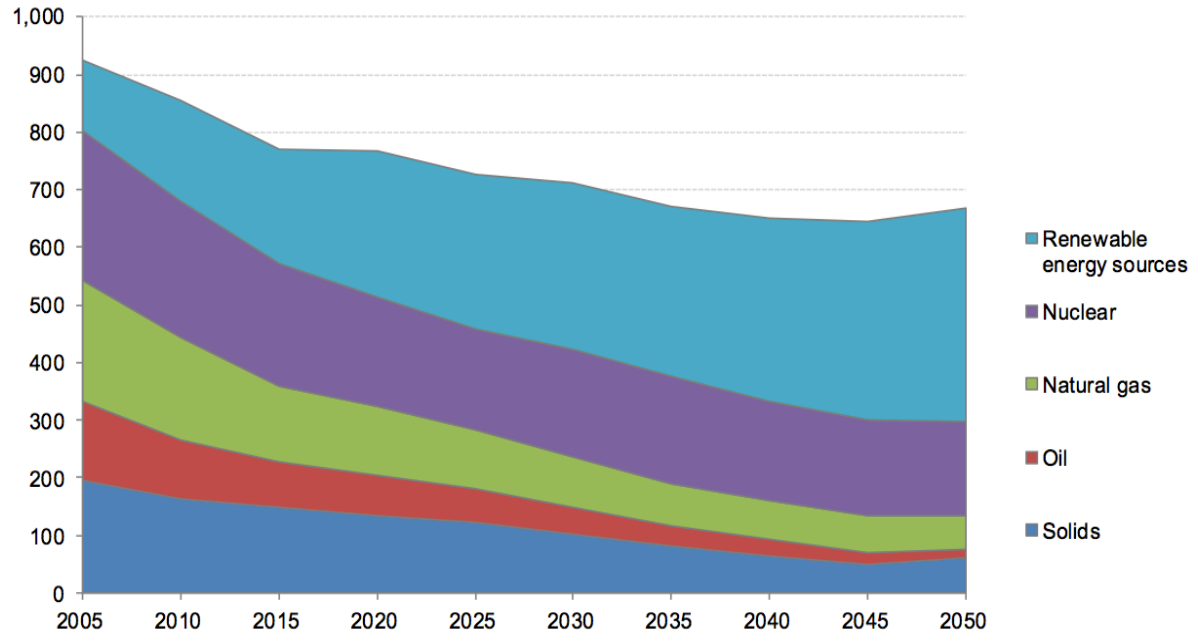
The targets set up by the 2050 strategy are to reduce greenhouse gas emissions by 80-95%[187] compared to the 1990 levels, with a share of renewable energy sources in gross final energy consumption of 75% and in electricity consumption of 97%.

Even though the targets may be too way optimistic, the share of renewable energies production within the European Union energy basket will certainly increase. The main effects in terms of energy security are the ones of diminishing European

[185] European Commission (2014), *European Energy Security Strategy*, Communication from the Commission to the European Parliament and the Council, May, Brussels.
[186] Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).
[187] European Commission (2017), "2050 Energy Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy (accessed in date 13 May /2017).

dependence from external sources of energy supply, since the fossil fuels will occupy a lesser percentage in the European energy demand.

Graph. 13: "EU Energy Production – 2005/2050"



Source: "EU Reference Scenario - 2016"

3.2.3 Diversification Routes

The necessity to find different routes from Russian natural gas imports increased after the gas disputes of 2006 and 2009. The European Commission decided therefore to add a "*fourth corridor*" to diversify its energy supply, which will deliver natural gas from Caspian and Middle Eastern regions to Europe.

The fourth corridor is made of complex gas value chains, which sought to transport natural gas from the Azeri field "Shah Deniz 2" to Europe. The corridor has been called "Southern Gas Corridor", passing through 7 countries, and comprised by three main pipelines:

- The "*South Caucasus Pipeline*" (SCP): which connects Azerbaijan to Georgia;
- The "*Trans Anatolian Pipeline*" (TANAP): which passes through Turkey;
- The "*Trans Adriatic Pipeline*" (TAP): which will cross Greece and Albania into

Italy[188].

Fig. 9: "Southern Gas Corridor Map"

Source: "Trans Adriatic Pipeline - 2017"

The project presents many difficulties for its implementation, especially for the construction of the Trans Adriatic Pipeline. This section competed with another big project aimed at diversifying Russian natural gas called Nabucco West.

Nabucco started as a mega-project intended to transport "*31 billion cubic meters annually of Central Asian gas from the eastern end of Turkey, across Romania, Bulgaria, and Hungary into Austria*"[189]. The project was envisaged with a strong political will to decrease dependency on Russia and was firmly supported by the European Commission.

However, the project faced financial problems and lacked of support by some Member States, especially Hungary, which agreed on a proposal extension of the Blue Stream pipeline proposed by Russia.

The original Nabucco project turned into the Nabucco West, which would direct the Azeri gas coming from Turkey into Austria instead of Italy like with the TAP.

[188] BP (2017),"The Southern Gas Corridor", *BP Azerbaijan*, Internet: http://www.bp.com/en_az/caspian/operationsprojects/Shahdeniz/SouthernCorridor.html (accessed in date 29 May 2017).

[189] Kamilla M. (2015),*Russia and European Energy Security: Outcomes of the Nabucco, South Stream and Turkish Stream Projects,* Helsinki: Helsinki Metropolia University of Applied Sciences.

Fig 10: "TAP and Nabucco West Pipelines"

Source: "WELT - 2013"

The task to choose upon which route deliver the natural gas coming from TANAP into the European Union was up to Azerbaijan and the Azeri Shah Deniz Consortium (SDC). The choice was made upon an analysis of different factors like the estimated costs, the time for construction and the investors.

First of all, the TAP presented an economic advantage: its estimation costs were almost half compared to those ones of Nabucco West ($1.5 billion compared to $2.7)[190]. Considering that Nabucco West should have a capacity between 10/23 billion cubic meters per year and the TAP similar between 10/20 billion cubic meters per year, investing in the TAP would result in an economic advantage.

Under a political point of view, the TAP has a stronger support from Greece and Albania than the Nabucco West had from its transit countries. Moreover, the Nabucco created strong rivalry with Moscow, to a point that Gazprom in 2010 proposed to buy the total volume of Azeri gas at the European market prices[191].

[190] Kamilla M. (2015),*Russia and European Energy Security: Outcomes of the Nabucco, South Stream and Turkish Stream Projects,* Helsinki: Helsinki Metropolia University of Applied Sciences.

[191] Dickel R., Hassanzadeh E., Henderson J., Honoré A., El-Katiri L., Pirani S., Rogers H., Stern J., Yafimava K. (2014), "Reducing European Dependence on Russian Gas: Distinguishing Natural Gas Security from Geopolitics",

It was mostly a Central and Eastern European project sponsored by Austria's energy company OMV. TAP, on the other hand, headed by BP, SOCAR, and Snam, managed to establish better agreements with key players before SDC's decision.

Currently, the Southern Corridor represents the biggest project of gas supply diversification for the European Union. In February 2015 a "Southern Corridor Advisory Council" was established in order to monitor the development of works, and the 1 May 2015 Turkmenistan, Turkey, Azerbaijan and the European Commisison signed a "Declaration on energy cooperation" that put the basis for an extension of the Southern Corridor towards Central Asia[192].

OIES Paper: NG 92, October: The Oxford Institute for Energy Studies.

[192] European Commission (2015), *State of the Energy Union 2015: on the European Energy Security Strategy*, Commission Staff Working Document, November, Brussels.

3.3 The Future Role of Natural Gas

3.3.1. The Bridge Fuel

The increase in share of natural gas in the global energy consumption has developed quite recently if compared to its substitutes fossil fuels like coal or oil. Gas has been considered for long time as a difficult resource to exploit and to transport and therefore less preferable than crude oil. However, thanks to the new developments in technology in gas exploitation and transport, its demand has increased substantially.

In the past twenty years the role of natural gas has increased constantly in the global energy mix. "*In 2011, the International Energy Agency (IEA) predicted that the world would rapidly enter into a 'golden age of gas', during which gas demand would reach 5.1 Tcm (by 2035)"*[193]. This increase is also due to the newly environmental policies aimed at the decreasing of the consumption of coal and at the increasing of the discovery of new gas resources.

The development of natural gas market is characterized by many difficulties originated by the complex system that requires to exploit, process, store, transport and deliver it to the customers. Nonetheless, the new environmental policies pursued at global level boost the usage of natural gas since it is low in carbon content if compared to its subsidies like coal. "*The natural gas sector has been able to develop over the past decades, becoming an alternative at worst, and a substitute at best for both coal and crude oil"*[194].

Due to the increasing global commitment to purse green energy policies and renewable energies, natural gas gained the role of "*bridge fuel*" towards a de-carbonization of the energy sector. In particular, it can serve as perfect substitute for coal since it emits less CO2 into the atmosphere.

Natural gas could halt the increased usage of coal in the energy consumption of

[193] Colombo S., El Harrak M., Sartori N. (2016), "The Future of Natural Gas: Markets and Geopolitics", *Istituto Affari Internazionali:* European Energy Review.
[194] Colombo S., El Harrak M., Sartori N. (2016), "The Future of Natural Gas: Markets and Geopolitics", *Istituto Affari Internazionali:* European Energy Review.

countries like China and India. Moreover, it has the necessary requirements to act as a transition source of energy that favour the implementation of renewable energies. The power plants required to produce natural gas have a comparative short time before being operative compared to coal or nuclear power plants, therefore it is ideal to complement the introduction of renewable energies around the world. The current time of low oil and gas prices are an incentive to switch from high CO2 emissions sources of energy to natural gas.

However, natural gas still lacks of a strong targeting support from policy makers. Many are the doubts towards the complete fulfilment of the green energy policies agreed at the COP 21 in Paris. The 2°C trajectory is undermined in the United States by the new Trump administration, which seems to be more favourable to an increasing return to coal[195].

Moreover, natural gas is most of the time not competitive, it is expensive to be transported, and it is highly dependent on geopolitics. Those concerns are particularly relevant for natural gas transported through pipelines. LNG, on the other hand, can represent a significant change for the future de-politicization of natural gas.

The European Union can be considered with no doubts the political player that betters than others it is committing itself to purse green energy targets. The Energy Roadmap 2050 is the clear example of this trend, according to which natural gas will play a fundamental role in the Union energy mix as a bridge fuel to renewable sources of energy.

However, many are the doubts about the complete implementation of the 2050 energy strategy and therefore on the real decreasing role of natural gas.

[195] Parker A., Davenport C. (2016), "Donald Trump's Energy Plan: More Fossil Fuels and Fewer Rules", in *The New York Times*, Internet: https://www.nytimes.com/2016/05/27/us/politics/donald-trump-global-warming-energy- policy.html?_r=0 (accessed in date 29 May 2017).

3.3.2. Future Role of Gas in Russia/EU Relations

The targets set up by the 2050 strategy are to reduce greenhouse gas emissions by 80-95%[196] compared to the 1990 levels, with a share of renewable energy sources in gross final energy consumption of 75% and in electricity consumption of 97%.

If those targets were fully optimized it would result a drastic reduction of fossil fuels in the energy mix of the European Union. Indirectly it would follow a drastic reduction of imports of natural gas coming from Russia.

The consequences of those changes would definitely alter the "*economic interdependence*" that is at the core of Russia/EU energy relations. If the EU manages to substitutes a large part of Russian natural gas imports with renewable sources of energy, the Russian energy market will be dramatically affected by substantial loss in the economy of the country.

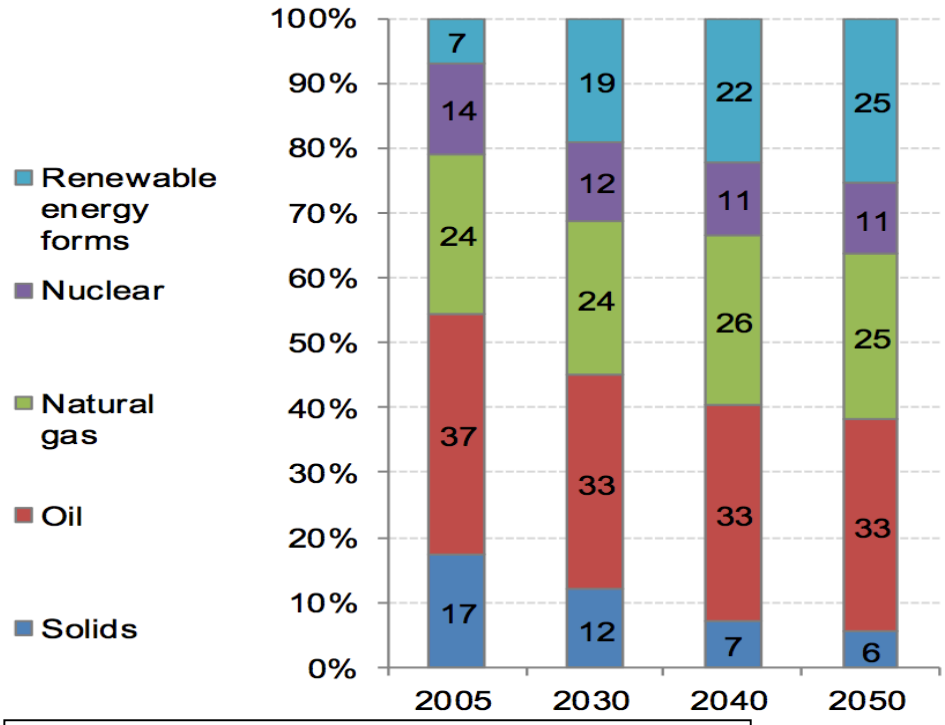
However, the initial goal of reducing greenhouse gas emissions by 80-95% compared to the 90s level is hard to achieve. "*Total GHG emissions are projected to be 26% below 1990 levels in 2020, 35% below by 2030 and 48% by 2050*"[197]. Also a growth in the share of renewable energies is expected to be up to 31% of the total energy mix in 2050 (far from the original target of 75%).

The EU Reference Scenario of 2016 drew upon these conclusions the trends for energy consumption of the European Union up to 2050. The Commission wanted to clarify that the data obtained can not be considered as a real forecast. In fact, the REF2016 does not include the politically agreed but not yet legally adopted 2030 climate and energy targets.

[196] European Commission (2017), "2050 Energy Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy (accessed in date 13 May 2017).

[197] European Commission (2016), "EU Reference Scenario 2016: Energy, Transport and GHG Emissions. Trends to 2050, Main Results", *EU Reference Scenario,* July, Brussels.

Graph. 14: "EU28 Energy Mix Consumption Mtoe – 2005/2050"



Source: "Europeam Commission – EU Reference Scenario 2016 – Trends to 2050"

The role that the Russian Federation will play as gas supplier for the European Union will largely depend on Gazprom ability to remain competitive, the effective implementation of EU green energy targets and the developments in global gas markets.

The interdependence that exists between Russia and EU seems that will remain constant over the time due to the decreasing in the average prices for gas contracts linked to the low oil prices[198] and the decrease in gas exports from North Africa.

"*The IEA forecasts that European imports of Russian gas will stay stagnant at 150-160 Bcm*"[199] with a possibility to a slightly decline in the long run. The stagnation of natural gas exports into the European Union are also confirmed by the "*Draft Energy Strategy of Russia for the period up to 2035"* published by the Russian

[198] Mazneva E. (2015), "Gazprom Said to See Its Lowest Europe Gas Price in 11 Years", in *Bloomberg*, Internet: http://bloom.bg/1R09c05 (accessed in date 25 May 2017).

[199] IEA (2015), "Medium-Term Market Report 2015", *Market Analysis and Forecasts to 2020,* Internet: https://www.iea.org/publications/freepublications/publication/MediumTermGasMarketReport2015.pdf (accessed in date 20 March 2017).

Ministry of Energy[200]

Most of Gazprom gas exports to Europe have been usually dealt by long-term (LT) contracts, adopting a discriminating pricing policy according to the country that receives the gas supply. However, the developments in the European gas market are challenging the LT contracts, due to the increasing "*gas-to-gas competition"* that favours lower prices and more flexible take-or-pay clauses for the EU companies.

The LT contracts are furthermore challenged by the EU competition and gas law that leads to gradual modifications on contract conditions (destination clauses) and by the European antitrust commission that accused Gazprom abuse of dominance on the Central and Eastern European gas markets[201]

In conclusion, the future of gas relations between the European Union and Russia will depend on a large extent on both the EU's gas market and the ability of Gazprom to maintain its share of market. In the short-run, due to contract obligations, the geographical proximity, and the already existing connecting infrastructures, the supply of gas will remain constant.

In the long-run, calculating the exact quantity of Russian gas that will flow into the European Union is too uncertain. This will strongly depend on the development of energy policies (both at the EU/Russia level and at world level). If the 2°C trajectory are followed and the Energy Roadmap are fully achieved, then the supply of Russian natural gas will drop drastically because it will be replaced by renewables sources of energy. On the contrary, if these policies are not followed then the role of natural gas will remain relevant in the EU/Russia energy relations.

[200] Russian Ministry of Energy (2010), "Energy Strategy of Russia for the Period up to 2030", *Energy Policy*, November: Moscow.

[201] European Commission (2015), "Antitrust: Commission sends Statement of Objections to Gazprom for alleged abuse of dominance on Central and Eastern European gas supply markets", *European Commission Press Release Database*.

3.3.3. The New Policies Scenario

Those who advocate for a major role of natural gas in the global energy consumption rely upon its main advantages like the relative abundance and its low green house gas emissions when compared with its more polluting substitutes. However, natural gas faces strong competition in the market where it is most used, mostly due to its high transport costs when compared to other fossil fuels.

"*Because of its low energy density, exacerbating the competitive challenge in markets dependent on long-distance imports"*[202]. Nonetheless, future trends in the short run suggest that the global gas export will increase in the next decade, with LNG increasing faster than pipeline gas.

The International Energy Agency developed 3 main future energy scenarios taking into account the possible developments of the current energy policies:

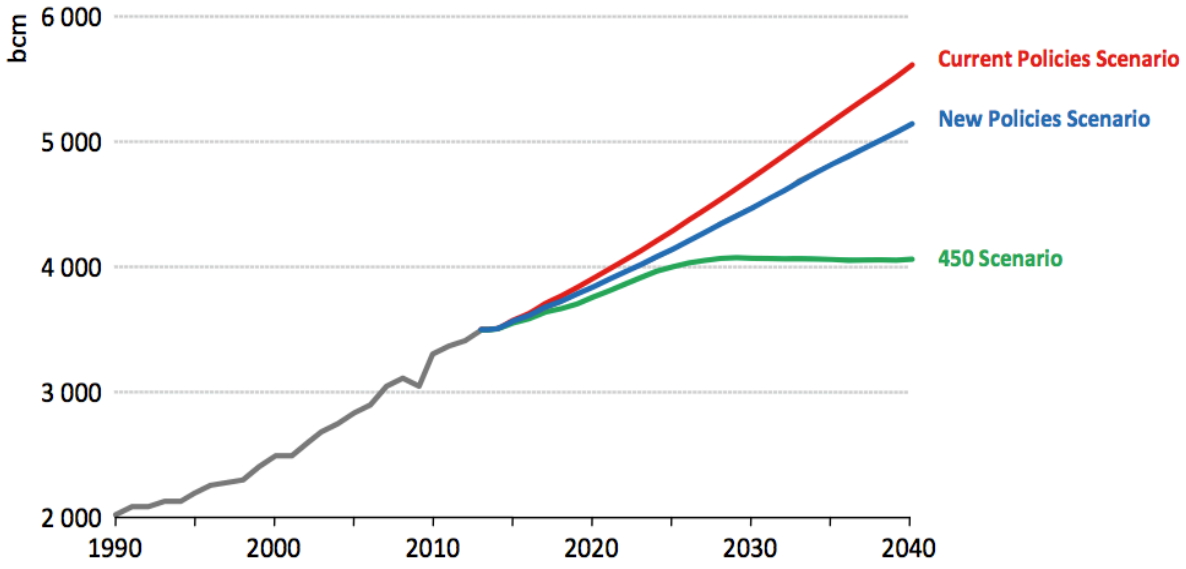
- "*The new Policies Scenario*": according the to IEA is the most reliable scenario. "*Describes a pathway for energy markets based on the continuations of existing policies and measures, as well ad the cautious implementation of announced policy proposals*"[203].
- "*The current Policies Scenario*": takes into account exclusively the policies that have already enacted, therefore serving as a comparative tool to assess the impact of the other two possible energy developments.
- "*The 450 Scenario"*: is the most optimistic scenario for what concern green energy policies. It presents the development of the energy market if the globally agreed 2°C trajectory will be respected.

The IEA developed forecasts for the possible development of the world gas energy demand confronting with the three before mentioned scenarios.

[202] IEA (2015), "Medium-Term Market Report 2015", *Market Analysis and Forecasts to 2020,* Internet: https://www.iea.org/publications/freepublications/publication/MediumTermGasMarketReport2015.pdf (accessed in date 20 March 2017).

[203] IEA (2015), "World Energy Outlook", pp. 54.

Graph. 15: "World Natural Gas Demand by IEA Scenarios – 1990/2040"



Source: "IEA – World Energy Outlook 2015"

In the IEA findings, natural gas consumption expands at and average of 1.4% per year in the New Policies Scenario (a growth rate faster than oil and coal). "*Its share in the energy mix increases from 21% in 2013 to 24% in 2040, making it the only fossil fuel to see an increase*"[204]. The only two other energy commodities that will increase faster than gas are the renewable energies and the nuclear power.

This percentage of increase in share of natural gas in the global energy mix envisaged in the New Policies Scenario is similarly reflected in the energy trends to 2050 developed by the European Commission. In fact, the share of natural gas in the EU, according to the EU Reference Scenario 2016, passes from 24% in 2005 to 26% in 2040[205]. The share of renewables energies more than triple passing from 7% in 2005 to 25% in 2040, whereas the share of nuclear energy seems to decrease.

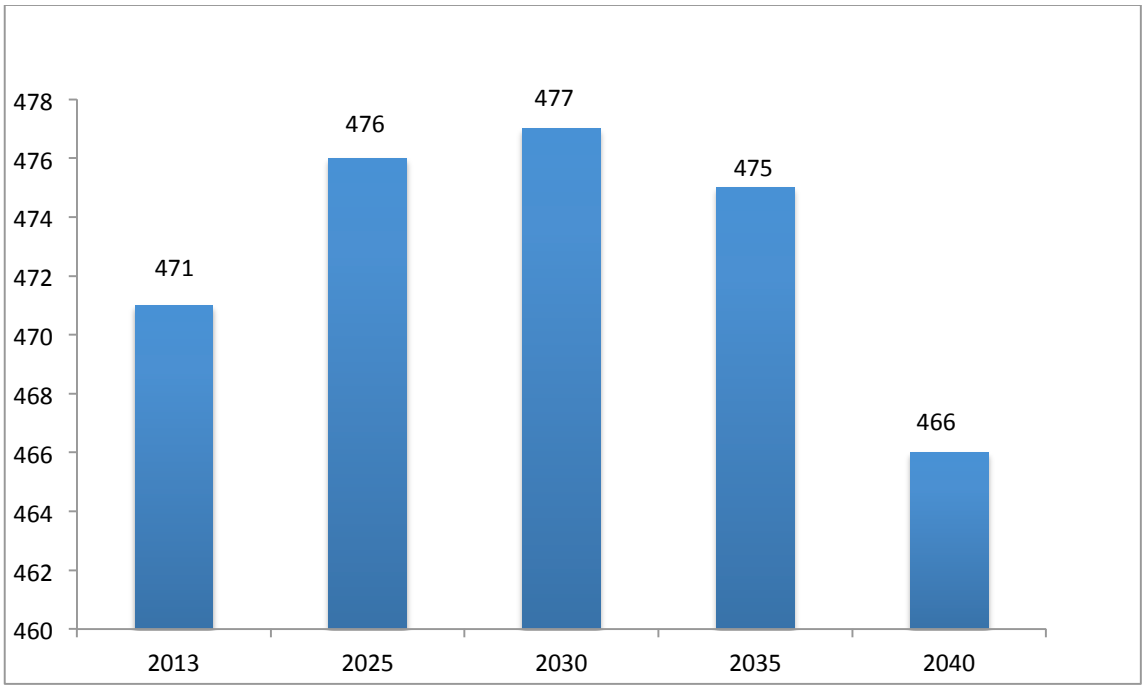
Contrasts are evident between the development of the trajectory for world natural gas demand between the New Policies Scenario and the 450 Scenario. In the latter in fact natural gas expands until 2030 before it will face demand stagnation as a consequence of the green energy policies that aim at limiting energy-related carbon-

[204] IEA (2015), "World Energy Outlook", pp. 195.
[205] European Commission (2016), "EU Reference Scenario 2016: Energy, Transport and GHG Emissions. Trends to 2050, Main Results", *EU Reference Scenario,* July, Brussels.

dioxide emissions.

The IEA, however, in contrast with the EU reference scenario of 2016, predicts a downturn tendency for the European Union in the natural gas demand starting from 2040.

Graph 16: "EU28 Natural Gas Demand in the New Policies Scenario – 2013/2040" (bcm)



Source: "IEA – World Energy Outlook 2015"

As above mentioned, the role that the Russian Federation will play as gas supplier for the European Union will largely depend on Gazprom ability to remain competitive, the effective implementation of EU green energy targets and the developments in global gas markets.

The prospects for Gazprom to create new gas export projects, both to East and West, is currently constrained by the international sanctions that limit the access of Russian companies to western finances[206] and the lower hydrocarbon revenues.

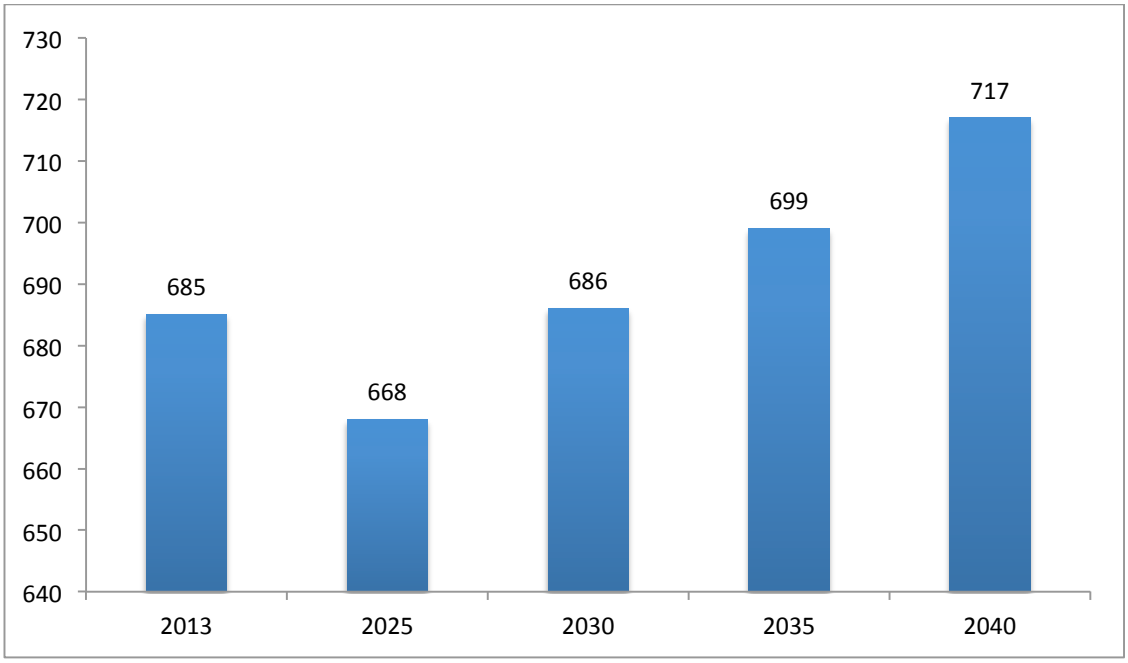
The depreciation of the Russian ruble has brought initial advantages in terms of export projects, however importing technologies from the West are becoming much

[206] Olsson P., Oxentstierna S. (2015*),* "The Economic Sanctions Against Russia: Impact and Prospects for Success". *FOI-R- 4097-SE,* September: FOI.

more expensive. Those technologies are essential for the development of the Russian oil and gas market (especially for Russia's new LNG projects).

Nonetheless, the IEA predicts in the New Policies Scenario that the Russian natural gas production, after a first period of stagnation, will increase consistently in the long run. The increase in production will be boost by the eastern Siberian fields, which will direct Gas to eastern China through the pipeline "Power of Siberia". Moreover, in addition to the Western upcoming projects like the Nord Stream 2 or the Turkish Stream, Russia is promoting an additional project known as the "Altai or western route"[207] that would deliver gas from western Siberia to western China.

Graph. 17: "Russia Natural Gas Production in the New Policies Scenario – 2013/2040 (bcm)"



Source: "IEA – World Energy Outlook 2015"

[207] Henderson J. (2014), "The Commercial and Political Logic for the Altai Pipeline", *Oxford Energy Comment,* December: The Oxford Institute for Energy Studies.

Conclusion

The 2004-07 enlargements have brought differences between West Member States and the Central and Eastern Europe Countries (CEE) over the development of their energy infrastructures and grid interconnectedness. Moreover, the enlargements have brought within the European Union a different perception of the Russian Federation as a reliable energy supplier. Some of the "*newly*" Member States are almost entirely dependent on Russia from its energy supply and therefore more vulnerable to possible disruptions of Russian natural gas imports.

The EU carried out energy security stress tests in 2014, in order to understand the maximum length that Member States would sustain in case of an energy disruption. During the 2009 Ukraine gas crises "*the necessary amounts of gas were available on the EU internal market but it was physically impossible to ship them to the affected Member States in Eastern Europe*"[208] due to the lack of infrastructures.

The two stress tests simulated energy supply disruption from a minimum period of one month to a maximum of six, accordingly to two different possible scenarios: "*a complete halt of Russian gas imports to the EU; a disruption of Russian gas imports through the Ukrainian transit route*"[209]. It resulted from the tests that a disruption longer more than 6 months would be unsustainable for the Union in part due to the high dependency level of the Eastern European Member States on Russian natural gas.

The inability by the EU to act as a single subject in international affairs strengthen the diverging interests between Member States, which hamper the work towards a single energy security strategy. Whereas the Eastern European countries advocate for an increasing diversification strategy in order to reduce the imports of Russian natural gas, other Member States, like Germany, are increasing their

[208] European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.
[209] European Commission (2017), "Energy Security Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/energy-security-strategy (accessed in date 26 March 2017).

cooperation with Moscow as it is proved by the construction of the Nord Stream 2.

What emerges is a complex scenario in which the European Union outlines its official policies through the European Commission but the Member States act accordingly to their national interests. This situation creates an "*asymmetric interdependency*" between Russia and the European Union, in which their relationship is not based on an equal interdependence, but on a complex system of asymmetrical interdependencies between the individual Member States and the Federation.

The dissertation investigates mainly the role of natural gas due to its strong implications in terms of geopolitical analyses. Since the most common way of transporting gas is trough pipelines, the geographical position of the suppliers and importers are peculiar to the analyses.

The future role that natural gas will occupy in Russia/EU relations is related to a multitude of different factors. Certainly it will be determinant the ability of Gazprom to remain competitive and maintain its market share in the European gas market. The Russian company is facing challenges by the increasing global supply and by the EU ongoing liberalization and gradual integration of its energy market.

The LT contracts based on restricting the re-sale of gas and with prices linked to oil, for long time favored by Gazprom, are now opposed within the European Union. An example is the increasing "*gas-to-gas competition"* that favours lower prices and more flexible take-or-pay clauses for the EU companies.

The ability by the European Union to meet its 2050 lower green house gas emissions targets is determinant in predicting the future role that Russia will occupy as natural gas supplier. If these targets will be fully achieve, the European Union energy mix consumption will be mainly composed by renewable sources of energy, which indirectly implies a drastic reduction of natural gas.

The IEA refers to this future outcome as "*450 scenario*" and it represents the development of the energy market if the globally agreed 2°C trajectory will be

respected. The consequences for Russia would be dramatic in terms of its national economy since "*oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013*"[210].

However, many are the doubts that this path towards green energy consumption will be fully achieved. The outcome that I endorsed is the so called "*New Policies Scenario*", which bases its forecast on the continuation of the existing energy policies and the implementation of the announced policy proposals. According to this scenario, the European Union natural gas demand will actually increase until 2030, and only after that date it will start to slowly shift downturn.

Finally, what will determine the role of Russia/EU gas exchange are the developments in the international oil and gas market. The fall of oil prices from a peak in June 2014 of $115 per barrel under $35 in February hardly hit Russian economy, which in 2015 experience a loss of -2.8% in GDP[211].

The reason why the price of oil dropped was the decision in 2014 by Saudi Arabia and other Gulf allies to not cut their oil production in order to stabilize the oil market, even though other OPEC members like Iran, Venezuela, and Algeria have wanted to cut production. This led to an excess supply of crude oil that overcomes a weak global energy demand (due to the slow down in the economic growth of the European economies and developing countries).

Furthermore, the Iran nuclear deal reached in 2015 strongly altered the international energy scenario. The international sanctions that damaged Iran's economy have been lifted allowing it to become again an active member of the international community. The consequences have been an increase in its oil supplies that further contribute to the global over-supply.

It is therefore necessary to understand how strongly correlated is international politics with the energy sector. If an increase in oil and gas prices will soon occur,

[210] EIA (2014), "Oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013", *Today in Energy*, Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 08 June 2017)
[211] The World Bank (2017), "GDP Growth (annual %)", *DataBank*, Internet: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG (accessed in date 08 June 2017)

then, in the United States, the Trump's strategy to return to coal will be challenged by an increase production of unconventional sources of gas like the "*shale gas*", which in combination with LNG could drastically altered the international gas market.

Russia future exports of its energy resources will largely depend on its ability to react promptly and be prepared for any possible change in the international oil and gas market.

Bibliography

- Aissaoui A. (2016), "Algerian Gas: Troubling Trends, Troubled Polices", *OIES Paper:* NG 108, May: The Oxford Institute for Energy Studies.

- Amorosi M. (2014), "L'Ucraina Senza Atomica e Senza Crimea", *Limes Rivista Online*, Internet: http://www.limesonline.com/lucraina-senza-crimea-e-senza-atomica/59466 (accessed in date 09 January 2017).

- Andrei R. (2015), "Energy Security in South-East Europe: Natural Resources as Causes of Conflict or Building Stability", Balkan Social Science Review, Vol. 5, June. Applied Sciences.

- Basheska E, Kochenov D. (2007), *Good Neighborliness in the European legal context,* Boston: Brill Nijhoff

- BBC (2013), "Russia Offers Ukraine Major Economic Assistance", Internet: http://www.dw.com/en/russia-makes-15-billion-gas-discount-commitments-to-ukraine/a-17303930 (accessed in date 09 May 2017).

- BBC NEWS (2005), "The Kremlin Agrees Price for Gazprom", Internet: http://news.bbc.co.uk/2/hi/business/4100820.stm (accessed in date 24 March 2017).

- Bezrukov A., Sushentsov A. (2015),"Contours of an Alarming Future" in *Russia in Global Affairs,* 21 September

- Birchfield V. L., Duffield J. S. (2011), *Toward a Common European Union Energy Policy: Problems, Progress and Prospects*: Pallgrave Macmillan US.

- Boon von Ochssée T. A., van der Linde J. G. (2008), *Two Sides of the Same Coin?: Energy Security* Thinking in the US Versus Europe, A Case-Based approach, Groningen: University of Groningen.

- Bordachev T. (2015), "New Eurasian Momentum", in *Russia in Global Affairs,* 14 February.

- BP (2017),"The Southern Gas Corridor", *BP Azerbaijan*, Internet: http://www.bp.com/en_az/caspian/operationsprojects/Shahdeniz/SouthernCorridor.html (accessed in date 29 May 2017).

- CIS (2014), "Presidential Decree of the Russian Federation: August 6, 2014, No. 560", *CIS-Legislation*, Internet: http://cis-legislation.com/document.fwx?rgn=68933 (accessed in date 16 May 2017).

- Colombo S., El Harrak M., Sartori N. (2016), "The Future of Natural Gas: Markets and Geopolitics", *Istituto Affari Internazionali:* European Energy Review.

- Commission of the European Communities (2007), *An Energy Policy for Europe,* Communication from the Commission to the European Council and the European Parliament, January, Brussels.

- Committees of External Relations (2009), *Czech Presidency faces up to Gaza and gas disputes,* European Parliament Press Release, 21 January, Brussels.

- Cossy M. (2009), "Energy Transport and Transit in the WTO", *Center for Trade and Economic Integration, The Graduate Institute,* Internet : http://graduateinstitute.ch/files/live/sites/iheid/files/sites/ctei/shared/CTEI/events/CTEI_TEE_Cossy.pdf (accessed in date 10 April 2017)

- Council of the European Union (2009), *Joint Declaration of the Prague Eastern Partnership Summit,* Press, May, Brussels.

- Crimean News Agency (2014), "Crimean Parliament Declares its Independence from Ukraine", *Politics,* Internet: http://qha.com.ua/en/politics/crimen-parliament-declares-its-independence-from-ukraine/130814/ (accessed in date25 April 2017).

- Crozet M., Hinz J. (2016), "Friendly Fire: The Trade Impact of the Russia Sanctions and Counter-Sanctions", *Kiel Working Paper No. 2059*, November: Kiel Institute for the World Economy.

- Dickel R., Hassanzadeh E., Henderson J., Honoré A., El-Katiri L., Pirani S., Rogers H., Stern J., Yafimava K. (2014), "Reducing European Dependence on Russian Gas: Distinguishing Natural Gas Security from Geopolitics", *OIES Paper*: NG 92, October: The Oxford Institute for Energy Studies.

- Dominelli C. (2017), "Dal South Stream al TAP: le Vie del Gas tra Progetti Falliti e Nuove Rotte", in *Il Sole-24 Ore, 10 May*, Internet.

- Donaldson R., Nogee, J. (2009), *The Foreign Policy of Russia. Changing Systems, Enduring Interests,* London: M.E. Sharpe.

- Dutkiewicz P., Sakwa R. (2014), *Eurasian Integration – The View from Within*, Abingdon: Routledge.

- DW (2013), "Russia Makes $15 billion, Gas Discount Commitments to Ukraine", Internet: http://www.dw.com/en/russia-makes-15-billion-gas-discount-commitments-to-ukraine/a-17303930 (accessed in date 09 May 2017).

- EFTA (2017), "European Economic Area Agreement", *EEA Agreement*, Internet: http://www.efta.int/eea/eea- agreement (accessed in date 26 May 2017).

- EIA (2014), "Oil and Natural Gas Sales Accounted for 68% of Russia's Total Export Revenues in 2013", *EIA Today In Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 17 May 2017).

- EIA (2017), "Russia", *EIA* Beta. Internet: https://www.eia.gov/beta/international/analysis.cfm?iso=RUS (accessed in date 29 May 2017).

- EIA (2014), "Oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013", *Today in Energy*, Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 08 June 2017)

- EIA (2014), "16% of Natural Gas Consumed in Europe Flows through Ukraine", *Today in Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=15411 (accessed in date 01 March 2017).

- Euractiv (2009), "Putin and Berlusconi Seal 'South Stream' Pipeline Deal", *Med & South,* Internet: http://www.euractiv.com/section/med-south/news/putin-and-berlusconi-seal-south-stream-pipeline-deal/ (accessed in date 06 May 2017).

- European Commission (2011), "EU-Russia Gas Advisory Council – Rules of Procedures", Internet:https://ec.europa.eu/energy/sites/ener/files/documents/2011_10_18_rules_of_procedure_final.pdf (accessed in date 16 April2017).

- European Commission (2013), "EU-Russia Energy Cooperation until 2050", Internet: https://ec.europa.eu/energy/sites/ener/files/documents/2013_03_eu_russia_roadmap_2050_signed.pdf (accessed in date 16 April 2017).

- European Commission (2014)*, European Energy Security Strategy,* Communication from the Commission to the European Parliament and the Council, May, Brussels.

- European Commission (2014), "The European Union and Russia: Close Neighbors, Global Players, Strategic Partners", *European Commission External Relations,* Internet: https://eeas.europa.eu/sites/eeas/files/eu_russia_en.pdf (accessed in date 10 April 2017).

- European Commission (2014), *A Policy Framework for Climate and Energy in the Period from 2020 - 2030* ,Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, January, Brussels.

- European Commission (2014), *European Energy Security Strategy*, Communication from the Commission to the European Parliament and the Council, May, Brussels.

- European Commission (2014), *In-depth Study of European Energy Security*, Commission Staff Working Document, August, Brussels.

- European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.

- European Commission (2015), "Antitrust: Commission sends Statement of Objections to Gazprom for alleged abuse of dominance on Central and Eastern European gas supply markets", *European Commission Press Release Databas*e.

- European Commission (2004), *EU/Russia: The Four "Common Spaces*, Press Release Database, MEMO/04/268, 23 Nov., Brussels.

- European Commission (2015), "Energy Union Factsheet", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_MEMO-15-4485_en.htm (accessed in date 07 April 2017).

- European Commission (2015), *A framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy,* Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment, February, Brussels.

- European Commission (2015), *State of the Energy Union 2015,* Commission Staff Working Document on the European Energy Security Strategy, November, Brussels.

- European Commission (2016), "Clean Energy for All Europeans – Unlocking Europe's Growth Potential", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_IP-16-4009_en.htm (accessed in date 07 April 2017).

- European Commission (2016), "EU Energy in Figures", *Statistical Pocketbook 2016*, Internet: https://ec.europa.eu/energy/sites/ener/files/documents/pocketbook_energy-2016_web-final_final.pdf (accessed in 27 May 2017)

- European Commission (2016), "EU Reference Scenario 2016: Energy, Transport and GHG Emissions. Trends to 2050, Main Results", *EU Reference Scenario,* July, Brussels.

- European Commission (2016), "The EU Emission Trading System (EU ETS)", *European Commission Climate Action*, Internet: https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf (accessed in date 19 April 2017)

- European Commission (2016), *Liquefied Natural Gas and gas storage will boost EU's energy security*, European Commission – Fact Sheet, 16 February, Brussels.

- European Commission (2017), "2050 Energy Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy (accessed in date 13 May 2017)

- European Commission (2017), "Countries and Regions: Algeria", *European Commission Trade,* Internet: http://ec.europa.eu/trade/policy/countries-and-regions/countries/algeria/ (accessed in date 27 May 2017).

- European Commission (2017), "Eastern Partnership", *European Neighborhood Policy and Enlargement Negotiations*, Internet: https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/eastern-partnership_en (accessed in date 08 May 2017).

- European Commission (2017), "Energy Security Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/energy-security-strategy (accessed in date 26 March 2017).

- European Commission (2017), "Imports and Secure Supplies", *European Commission Strategy,* Internet: https://ec.europa.eu/energy/en/topics/imports-and-secure-supplies (accessed in date 27 May 2017).

- European Commission (2017), "Market Legislation", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation (accessed in date 05 April 2017)

- European Commission (2017), "Norway", *European Commission* Energy, Internet: https://ec.europa.eu/energy/en/norway (accessed in date 26 May 2017).

- European Commission (2017), "Progress Reports", *European Commission Energy,* Internet: http://ec.europa.eu/energy/node/70 (accessed in date 05 April 2017).
- European Commission (2017), "Russia", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/international-cooperation/russia (accessed in date 15 April 2017).

- European Commission (2017), "Single Market Progress Report", *European Commission Energy,* Internet: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report (accessed in date 05 April 2017)

- European Commission (2017), "Trans-European Networks for Energy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/infrastructure/trans-european-networks-energy (accessed in date 23 March 2017).

- European Union External Action (2017), "Eastern Partnership", Internet: https://eeas.europa.eu/topics/eastern- partnership_en (accessed in date 05 May 2017)

- Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).

- Eurostat (2016), "Europe 2020 Indicators – Climate Change and Energy", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe_2020_indicatorsclimate_change_and_energy#Main_tables (accessed in date 05 April 2017).

- Felgenhauer T. (1999), "Ukraine, Russia, and the Black Sea Fleet Accords", *WWS Case Study 2/99*, Princeton, Princeton University.

- Filho L. W., Voudouris V. (2013), *Global Energy Policy and Security*, Londra: Springer.

- Frappi C., Rossetto N. (2016), "Sicurezza Energetica", *Osservatorio Di Politica Internazionale* N.27, July, Milano: ISPI.

- Frass-Ehrfeld C. (2009), *Renewable Energy Sources: a Chance to Combat Climate Change*, Netherlands: Wolters Kluwer.

- Friedman B.H., Logan J. (2009), "Hitting the 'Stop' Button on NATO Expansion", *IA Forum NATO at 60 Spring*

- Gazprom (2017), "Construction of TurkishStream Gas Pipeline's Offshore Section Commenced", *Gazprom News,* Internet: http://www.gazprom.com/press/news/2017/may/article329932/ (accessed in date 17 May 2017).

- Gazprom (2017), "Nord Stream 2", *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/nord-stream2/ (accessed in date 25 April 2017).

- Gazprom (2017), "Power of Siberia" *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/ykv/ (accessed in date 25 April 2017).

- Georgia Today (2017), "Georgia Marks 10th Anniversary of NATO Days This Week", Internet: http://georgiatoday.ge/news/6231/Georgia-Marks-10th-Anniversary-of-NATO-Days-This-Week (accessed in date 13/05/2017).

- Giusti S. (2013), "Russia's Foreign Policy for the Country's Stability", *Istituto per gli Studi di Politica Internazionale (ISPI) No. 165, April, ISPI.*

- Giordano A. (2009). *Relazioni UE-Russia, energia e politica internazionale*, in Europae – Quadrimestrale di Affari Europei, n. 2, pp. 61-75. Soveria Mannelli: Rubbettino Editore

- Giordano A., Hryniewiecki R., (2013), "The Geopolitical Implications of the New Developments on Global Energy Markets: The Major Energy Actors Case", in "Journal Of Global Policy and Governance". July, Vol. 2, Issue 1, pp.45-58. Heidelberg-New York: Springer.

- Goldthau A, Hoxtell W. (2012), "The Impact of Shale Gas on European Energy Security", *GPPi Policy Paper No 14,* February, Brussels: European Commission.

- Gradziuk A., Wyciszkiewicz E. (2009), *Energy Security and Climate Change: Double Challenge for Policy Makers,* Warsaw: The Polish Institute of International Affairs.

- Harding L. (2009), "Barack Obama Calls for 'Reset' in US-Russia Relations", in *The Guardian*, 7 July.

- Henderson J. (2014), "The Commercial and Political Logic for the Altai Pipeline", *Oxford Energy Comment,* December: The Oxford Institute for Energy Studies.

- Huntington S. P. (1997*): The Clash of Civilizations and the Remarking of World of Order*, New York: Touchstone

- IEA (2015), "Medium-Term Market Report 2015", *Market Analysis and Forecasts to 2020,* Internet: https://www.iea.org/publications/freepublications/publication/MediumTermGasMarketReport2015.pdf (accessed in date 20 March 2017).

- IEA (2015), "World Energy Outlook",

- IEA (2017), "What is energy security?", Internet: https://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/ (accessed in date 02 March 2017).

- International Gas Union (2016), "2016 World LNG Report", *LNG 18 Conference & Exhibition Edition.*

- Jewell J. (2011), "The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels", *Working Paper,* OECD/IEA.

- Kalb M. (2015), *Imperial Gamble: Putin, Ukraine and the New Cold War*, The Brookings Institute: Washington D.C.

- Kamilla M. (2015), *Russia and European Energy Security: Outcomes of the Nabucco, South Stream and Turkish Stream Projects,* Helsinki: Helsinki Metropolia University of Applied Sciences.

- Kirch A., Kirch M., Tuisk T. (1993), "Russians in the Baltic States: to Be or not to Be", *Journal of the Baltic States Vol. 24 No. 2,* Summer, Taylors & Francis, Ltd.

- Klimas A. (1993), "Ethnic Tensions in the Baltic", *Lithuanian Quarterly Journal of Arts and Sciences Vol. 39 No. 1,* Spring, Rochester, University of Rochester.

- Kramer A.E. (2006), "Russia Cuts Off Gas to Ukraine in Cost Dispute", in *The New York Times*, 2 January

- Lieven A. (2011), "The Cold War and the Post Cold War World", in *Russia in Global Affairs,* 29 December

- Lithuanian Presidency of the Council of the European Union (2013), "Joint Declaration of the Eastern Partnership Summit, Vilnius, 28-29 November 2013", *Archives*, Internet: http://www.eu2013.lt/en/news/statements/-joint- declaration-of-the- eastern-partnership-summit-vilnius-28-29-november-2013 (accessed in date 08 May 2017).

- Lo. Bobo (2008), *Vladimir Putin and the Evolution of Russian Foreign Policy,* London: The Chatman House Papers .

- Mabro R. (1998), "The Oil Price Crises of 1998", *SP 10*, October, Oxford: Oxford Institute for Energy Studies.

- Macalister T. (2008), "Russia-Ukraine Crisis: Kiev Inches Towards Deal with Gazprom", in *The Guardian,* 30 December.

- Makarova N. (2008), "Gazprom: Gas Giant Under Strain", *Working Paper No.71,* January, Stanford: Freeman Spogli Institute for International Studies.

- Maltby T., Sharples J. (2016), "Challenging Reductionism in Analyses of EU-Russia Energy Relations", *GEOPOLITICS Vol 21. No. 4,* Routledge Taylor & Francis Group.

- Mamlyuk B. N. (2015):"The Ukraine Crisis, Cold War II, and International Law", *SSRN No.3*: The German Law Journal.

- Manzano B, Rey L. (2012), "The Welfare Cost of Energy Insecurity", *WP FA*, July, Alcoa Foundation.

- Mazneva E. (2015), "Gazprom Said to See Its Lowest Europe Gas Price in 11 Years", in *Bloomberg*, Internet: http://bloom.bg/1R09c05 (accessed in date 25 May 2017).

- Mearsheimer J.J, (2014), "Why the Ukrainian Crisis Is the West's Fault", in *Foreign Affairs,* September/October Issues.

- Mulder M, Cate A, Zwart G. (2007), "The Economics of Promoting Security of Energy Supply", *EIB Papers Vol. 12 N. 2,* Luxembourg: European Investment Bank.

- NATO (2005),"NATO Launches 'Intensified Dialogue' with Ukraine", Internet: http://www.nato.int/docu/update/2005/04-april/e0421b.htm (accessed in date 12 March 2017).

- Neuman M. (2008), *Energy as the Defining Component in EU-Russian Relations after the Eastern EU Enlargement*, Groningen: University of Groningen.

- Nord Stream 2 (2017), "Shareholder and Financial Investors", Internet: https://www.nordstream2.com/company/shareholder-and-financial-investors/#omv (accessed in date 27 May 2017).

- Norskpetroleum (2017), "Exports of Oil and Gas", *Oil Pipeline in the Norwegian Shelf,* Internet: http://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/ (accessed in date 26 May 2017).

- Olearchyk R, Belton C. (2008), "Kiev and Gazprom end standoff", in *Financial Times*, 6 March.

- Oliver G., Marcelis C., Maurer A. (2006), "Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France*"*, *Berlin:Stiftung Wissenschaft und Politik*, 17 Dec.

- Olsson P., Oxentstierna S. (2015*),* "The Economic Sanctions Against Russia: Impact and Prospects for Success", *FOI-R-4097-SE,* September: FOI.

- OPEC (2004), "Oil and Gas: the Engine of the World Economy", *Speeches 2004*, Internet: http://www.opec.org/opec_web/en/900.htm (accessed in date 20 May 2017).

- Parfitt T. (2009), «Ukraine Accused of Stealing Russian Gas as Fuel Flow Declines», in *The Guardian,* 3 January Independent (2006), "A Whiff of Dangerous and Unstable New World", Internet: http://www.independent.co.uk/voices/editorials/leading-article-a-whiff-of-a-dangerous-and-unstable-new-world- 6112794.html (accessed in date 02 May 2017).

- Parker A., Davenport C. (2016), "Donald Trump's Energy Plan: More Fossil Fuels and Fewer Rules", in *The New York Times*, Internet: https://www.nytimes.com/2016/05/27/us/politics/donald-trump-global-warming-energy-policy.html?_r=0 (accessed in date 29 May 2017).

- Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.

- Pirani S. (2007), *Ukraine's Gas Sector,* Oxford: The Oxford Institute for Energy Studies

- Pirani S. (2017), "Adversity and Reform: Ukrainian Gas Market Prospects", *Energy Insight No.7,* March: The Oxford Institute of Energy Studies.

- Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: The Oxford Institute for Energy Studies.

- Pirani S., Yafimava K. (2016), "Russian Gas Transit Across Ukraine Post-2019: Pipeline Scenarios, Gas Flow Consequences, and Regulatory Constraints", *OIES Paper: NG105*, February: The Oxford Institute for Energy Studies.

- Proedrou F. (2016), *EU Energy Security in the Gas Sector: Evolving Dynamics, Policy Dilemmas and Prospects,* New York: Routledge.

- Ruiz González F. J. (2013):"The Foreign Policy Concept of the Russian Federation: A Comparative Study", *Framework Document 03, April*: Instituto Espanol de Estudios Estratégicos.

- Russian Ministry of Energy (2010), "Energy Strategy of Russia for the Period up to 2030", *Energy Policy*, November: Moscow.

- Rustokcs (2005),"Gazprom and Naftogaz Ukrainy settle 7.8 bcm of Russian gas in Ukrainian UGS facilities problem",Internet: http://www.rustocks.com/index.phtml/pressreleases/0/46/7822?filter=2005 (accessed in date 19 April 2017).

- Sakwa R. (2009), *Power and Policy in Putin's Russia,* Glasgow: Routledge Europe-Asia Studies Series.

- Samofalova O. (2017), "Food Import Substitution Turns Out to Be Extremely Profitable", in *Russia Beyond The Headlines,* 9 February.

- Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13* Moscow: Сравителная Политика и Геополитика.

- Smith K.C. (2004), *Russian Energy Politics in the Baltics, Poland, and Ukraine: a New Stealth Imperialism?,* Washington D.C., CISIS.

- Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: The Oxford Institute for Energy Studies

- Stern J.P. (2005), *The Future of Russian Gas and Gazprom,* Oxford: The Oxford Institute for Energy Studies

- Svedentsov V. (2015), "The Eurasian Economic Union and the Silk Road Economic Belt – prospects for cooperation", in *Russian Institute for Strategic Studies,* 27 October.

- Talseth L. U. (2012), "The EU-Russia Energy Dialogue: Travelling Without Moving", *German Institute for International and Security Affairs,Working Paper FG5, Berlin, SWP Berlin.*

- The International Energy Charter (2016), "*Consolidated Energy Charter Treaty*", Internet: http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/ECT-Positive_Annex_W.pdf (accessed in date 25 March 2017).

- The Parliament Magazine (2016), "EU-Algeria Relations: Reinforcing our Energy Partnership", Internet: https://www.theparliamentmagazine.eu/articles/feature/eu-algeria-relations-reinforcing-our-energy-partnership (accessed in date 27 May 2017).

- The World Bank (2015), "Inflation, GDP deflator (annual %)", *The World Bank IBRD-IDA*, Internet: http://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG (accessed in date 17 May, 2017).

- The World Bank (2017), "GDP Growth (annual %)", *The World Bank IBRD-IDA*, Internet: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG (accessed in date 08 June 2017)

- Tsukarev T., Vinkorub E. (2015),"Agenda for the EEU Economy", in *Russian in Global Affairs,* 28 October.

- United Nations (2015), "UN Climate Change Conference Paris 2015", *Sustainable Development Goals*, Internet: http://www.un.org/sustainabledevelopment/cop21/ (accessed in date 02 April 2017).

- United Nations (1993*), Charter of the Commonwealth of Independent States (with declaration and decisions),* January, Minsk.

- UpStream (2014), "EU Calls for South Stream Suspension", Internet: http://www.upstreamonline.com/live/1157072/eu-calls-for-south-stream-suspension (accessed in date 28 May 2017).

- US Department of State (2001), *Remarks at the State Department Correspondents Association's Inaugural Newsmaker Breakfast,* Archive, January: Washington D.C.

- Verda M. (2015), "Libia: il Ruolo delle Esportazioni Energetiche e l'Importanza per l'Italia", Internet: http://www.sicurezzaenergetica.it/2015/09/libia-il-ruolo-delle-esportazioni-energetiche-e-limportanza-per-litalia/ (accessed in date 22 May 2017).

- Vorobyov V. (2012)," The SCO as a Rising Master of the Heartland", in *Russia in Global Affairs,* 25 March.

- Walker E.W. (2015), "Between East & West: NATO Enlargement & the Geopolitics of the Ukraine Crisis", *E-International Relations,* Internet: Internet: https://www.theguardian.com/world/2013/dec/17/ukraine-russia-leaders-talks-kremlin-loan-deal (accessed in date 12 May 2017).

- Walker S. (2013)"Vladimir Putin Offers Ukraine Financial Incentives to Stick with Russia", in *The Guardian*, Internet: https://www.theguardian.com/world/2013/dec/17/ukraine-russia-leaders-talks-kremlin-loan-deal (accessed in date 12 May 2017).

- Wieclawski J. (2011), "Contemporary Realism and the Foreign Policy of the Russian Federation", *International Journal of Business and Social Science Vol. 2 No.1,* Warsaw: Lazarski Univeristy.

- World Affairs Journal (2015), "G7 Summit Ready to Convene again without Russia", *World News,* Internet: http://www.worldaffairsjournal.org/content/russia-excluded-g7-conference-second-time (accessed in date 26 April 2017).

- World Energy Council (2013), *World Energy Resources: 2013 Survey*, England and Wales: World Energy Council.

- World Energy Council (2016*), "*World Energy Trilemma Index – 2016: Benchmarking the Sustainability of National Energy System", Internet: https://www.worldenergy.org/publications/2016/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems/ (accessed in date 15 March 2017).

- Yefremenko D. (2010), "Forced or Desired Modernity? Russia's Chances in the Post-American world", in *Russia in Global Affairs,* 15 October.

Dipartimento di Scienze Politiche *Geografia Politica*

European Union Energy Security Strategy

The Consequences of the 2004/7 Enlargements and the Role of Natural Gas in Russia/EU Relations

RELATORE

Prof. Alfonso Giordano

CANDIDATO

Giulio Bonechi

Matr. 628392

CORRELATORE

Prof. Angelo Maria Taraborrelli

Prof. Oleg Pichkov

ANNO ACCADEMICO

2016/2017

Index

Summary

In order to understand and interpret the political relationship between the European Union and Russia, it is necessary to analyze their respective strategies towards the geographical-cultural spaces that surround them.

The European Union opted for an inclusive strategy of enlargement towards East that brought new Member States, once part of the Soviet Union, into the European Union. The 2004/2007 enlargements admitted, as new Member States, countries that presented problems related to the "*post-bipolar*"[212] phase. These enlargements created divergences both at the internal and external spheres of the Union. In particular, the energy security strategy of the Union has been strongly altered markedly in relation to Russia as an energy supplier.

The 2004-07 enlargements brought differences between West Member States and the Central and Eastern Europe Countries (CEE) over the development of their energy infrastructures and grid interconnectedness. Moreover, the enlargements brought within the European Union a different perception of the Russian Federation as a reliable energy supplier. Some of the "*newly*" Member States are almost entirely dependent on Russia from its energy supply and therefore they are more vulnerable to possible disruptions of Russian natural gas imports.

Finland and Baltic States in particular are the only European countries that import their entire natural gas consumption from Russia.

The question that this dissertation intends to answer is to what extent the European Union's energy security strategy towards Russia has changed after the entrance in the Union of the CEE countries. The strategic interests of the various Member States vary considerably in terms of energy priorities creating de facto a dichotomy of interests

[212] Giordano A. (2009). *Relazioni UE-Russia, energia e politica internazionale*, in Europe – Quadrimestrale di Affari Europei, n. 2, pp. 61-75. Soveria Mannelli: Rubbettino Editore

between those who seek to reduce their energy dependence from Russia and those who on the contrary are strengthening their energy partnership.

This dissertation aims to dissert about the changes in the energy security strategy of the European Union and also to predict – through different energy scenarios - what in the long-run would be the role of natural gas in Russia/EU relations. The path towards a drastic reduction of fossil fuels consumption within 2050 endorsed by the Union, if fully achieved, can result in a drastic reduction of oil and gas consumptions, which eventually would strongly affect the economy of Russia.

In order to answer these questions I divided my work into three main chapters, providing at the beginning the theoretical background in order to analyze energy security. I took into account the most popular definitions of "*energy security*", studying their different interpretations and applications in the European Union and in Russia.

The theoretical framework used throughout the thesis is the one provided by the IEA.

The second part of the thesis focuses instead on contemporary Russian foreign policy and its political and energy relations with Ukraine. This chapter highlights the strategic importance for Russia to maintain a sphere of influence towards the geographical-cultural space that surrounds the Federation. Moreover, I analyzed the Ukrainian gas crises of 2006, 2009, and the most recent Ukrainian crisis of 2014. These events are extremely important in order to understand how the European Eastern enlargements have drastically affected the European Union's energy security.

Finally, the last chapter provides for a broader geopolitical explanation of the current European Union energy scenario and gives much attention to its main non-EU energy suppliers. In fact, in this chapter I took into account the different strategies of energy diversification that are implemented in order to decrease the EU

In the third chapter is analyzed the role of the "*Fourth Corridor*" as the major diversification project from Russian natural gas.

dependency from Russia's energy exports. The chapter helps to understand the complex relation that exists between the EU and Russia and their "*asymmetric interdependency*", with the aim to demonstrate that "*EU-Russia energy relations are based not on the EU-Russia interdependence, but on a set of asymmetrical interdependencies between Russia and individual Member States*"[213].

The EU carried out energy security stress tests in 2014, in order to understand the maximum length that Member States would sustain in case of an energy disruption. During the 2009 Ukraine gas crises "*the necessary amounts of gas were available on the EU internal market but it was physically impossible to ship them to the affected Member States in Eastern Europe*"[214] due to the lack of infrastructures.

The two stress tests simulated energy supply disruption from a minimum period of one month to a maximum of six, accordingly to two different possible scenarios: "*a complete halt of Russian gas imports to the EU; a disruption of Russian gas imports through the Ukrainian transit route*"[215]. It resulted from the tests that a disruption longer more than 6 months would be unsustainable for the Union in part due to the high dependency level of the Eastern European Member States on Russian natural gas.

The inability by the EU to act as a single subject in international affairs strengthen the diverging interests between Member States, which

[213] Gradziuk A., Wyciszkiewicz E. (2009), *Energy Security and Climate Change: Double Challenge for Policy Makers,*
Warsaw: The Polish Institute of International Affairs.
[214] European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to*
solidarity and preparedness for gas disruptions in the EU, Commission Staff Working Document, October, Brussels.
[215] European Commission (2017), "Energy Security Strategy", *European Commission Energy,* Internet:
https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/energy-security-strategy (accessed in date 26
March 2017).

hamper the work towards a single energy security strategy. Whereas the Eastern European countries advocate for an increasing diversification strategy in order to reduce the imports of Russian natural gas, other Member States, like Germany, are increasing their cooperation with Moscow as it is proved by the construction of the Nord Stream 2.

Conflict of interests exists also between the most powerful MS. An example is the termination of the "*South Stream"* pipeline.

What emerges is a complex scenario in which the European Union outlines its official policies through the European Commission but the Member States act accordingly to their national interests. This situation creates an "*asymmetric interdependency*" between Russia and the European Union, in which their relationship is not based on an equal interdependence, but on a complex system of asymmetrical interdependencies between the individual Member States and the Federation.

The dissertation investigates mainly the role of natural gas due to its strong implications in terms of geopolitical analyses. Since the most common way of transporting gas is trough pipelines, the geographical position of the suppliers and importers are peculiar to the analyses.

The future role that natural gas will occupy in Russia/EU relations is related to a multitude of different factors. Certainly it will be determinant the ability of Gazprom to remain competitive and maintain its market share in the European gas market. The Russian company is facing challenges by the increasing global supply and by the EU ongoing liberalization and gradual integration of its energy market.

The LT contracts based on restricting the re-sale of gas and with prices linked to oil, for long time favored by Gazprom, are now opposed within the European Union. An example is the increasing "*gas-to-gas competition"* that favours lower prices and more flexible take-or-pay clauses for the EU companies.

The ability by the European Union to meet its 2050 lower green house gas emissions targets is determinant in predicting the future role that Russia will occupy as natural gas supplier. If these targets will be fully achieve, the European Union energy mix consumption will be mainly composed by renewable sources of energy, which indirectly implies a drastic reduction of natural gas.

The targets set up by the 2050 strategy are to reduce greenhouse gas emissions by 80-95% compared to the 1990 levels.

The IEA refers to this future outcome as "*450 scenario*" and it represents the development of the energy market if the globally agreed 2°C trajectory will be respected. The consequences for Russia would be dramatic in terms of its national economy since "*oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013*"[216].

However, many are the doubts that this path towards green energy consumption will be fully achieved. The outcome that I endorsed is the so-called "*New Policies Scenario*", which bases its forecast on the continuation of the existing energy policies and the implementation of the announced policy proposals. According to this scenario, the European Union natural gas demand will actually increase until 2030, and only after that date it will start to slowly shift downturn.

The IEA predicts that the EU demand for natural gas will decrease from 475bcm in 2035 to 466bcm in 2040.

Finally, what will determine the role of Russia/EU gas exchange are the developments in the international oil and gas market. The fall of oil prices from a peak in June 2014 of $115 per barrel under $35 in February hardly hit Russian economy, which in 2015 experience a loss of -2.8% in GDP[217].

The reason why the price of oil dropped was the decision in 2014 by Saudi Arabia and other Gulf allies to not cut their oil production in

[216] EIA (2014), "Oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013", *Today in Energy*, Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 08 June 2017)

[217] The World Bank (2017), "GDP Growth (annual %)", *DataBank*, Internet: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG (accessed in date 08 June 2017)

order to stabilize the oil market, even though other OPEC members like Iran, Venezuela, and Algeria have wanted to cut production. This led to an excess supply of crude oil that overcomes a weak global energy demand (due to the slow down in the economic growth of the European economies and developing countries).

In 2015 the IEA estimated that there were more than 3 billion barrels of excess supply in world oil markets.

Furthermore, the Iran nuclear deal reached in 2015 strongly altered the international energy scenario. The international sanctions that damaged Iran's economy have been lifted allowing it to become again an active member of the international community. The consequences have been an increase in its oil supplies that further contribute to the global over-supply.

It is therefore necessary to understand how strongly correlated is international politics with the energy sector. If an increase in oil and gas prices will soon occur, then, in the United States, the Trump's strategy to return to coal will be challenged by an increase production of unconventional sources of gas like the "*shale gas*", which in combination with LNG could drastically altered the international gas market.

Russia future exports of its energy resources will largely depend on its ability to react promptly and be prepared for any possible change in the international oil and gas market.

Bibliography

- Aissaoui A. (2016), "Algerian Gas: Troubling Trends, Troubled Polices", *OIES Paper:* NG 108, May: The Oxford Institute for Energy Studies.

- Amorosi M. (2014), "L'Ucraina Senza Atomica e Senza Crimea", *Limes Rivista Online*, Internet: http://www.limesonline.com/lucraina-senza-crimea-e-senza-atomica/59466 (accessed in date 09 January 2017).

- Andrei R. (2015), "Energy Security in South-East Europe: Natural Resources as Causes of Conflict or Building Stability", Balkan Social Science Review, Vol. 5, June. Applied Sciences.

- Basheska E, Kochenov D. (2007), *Good Neighborliness in the European legal context,* Boston: Brill Nijhoff

- BBC (2013), "Russia Offers Ukraine Major Economic Assistance", Internet: http://www.dw.com/en/russia-makes-15-billion-gas-discount-commitments-to-ukraine/a-17303930 (accessed in date 09 May 2017).

- BBC NEWS (2005), "The Kremlin Agrees Price for Gazprom", Internet: http://news.bbc.co.uk/2/hi/business/4100820.stm (accessed in date 24 March 2017).

- Bezrukov A., Sushentsov A. (2015),"Contours of an Alarming Future" in *Russia in Global Affairs,* 21 September

- Birchfield V. L., Duffield J. S. (2011), *Toward a Common European Union Energy Policy: Problems, Progress and Prospects*: Pallgrave Macmillan US.

- Boon von Ochssée T. A., van der Linde J. G. (2008), *Two Sides of the Same Coin?: Energy Security* Thinking in the US Versus Europe, A Case-Based approach, Groningen: University of Groningen.

- Bordachev T. (2015), "New Eurasian Momentum", in *Russia in Global Affairs,* 14 February.

- BP (2017),"The Southern Gas Corridor", *BP Azerbaijan*, Internet: http://www.bp.com/en_az/caspian/operationsprojects/Shahdeniz/SouthernCorridor.html (accessed in date 29 May 2017).

- CIS (2014), "Presidential Decree of the Russian Federation: August 6, 2014, No. 560", *CIS-Legislation*, Internet: http://cis-legislation.com/document.fwx?rgn=68933 (accessed in date 16 May 2017).

- Colombo S., El Harrak M., Sartori N. (2016), "The Future of Natural Gas: Markets and Geopolitics", *Istituto Affari Internazionali:* European Energy Review.

- Commission of the European Communities (2007), *An Energy Policy for Europe,* Communication from the Commission to the European Council and the European Parliament, January, Brussels.

- Committees of External Relations (2009), *Czech Presidency faces up to Gaza and gas disputes,* European Parliament Press Release, 21 January, Brussels.

- Cossy M. (2009), "Energy Transport and Transit in the WTO", *Center for Trade and Economic Integration, The Graduate Institute,* Internet : http://graduateinstitute.ch/files/live/sites/iheid/files/sites/ctei/shared/CTEI/events/CTEI_TEE_Cossy.pdf (accessed in date 10 April 2017)

- Council of the European Union (2009), *Joint Declaration of the Prague Eastern Partnership Summit,* Press, May, Brussels.

- Crimean News Agency (2014), "Crimean Parliament Declares its Independence from Ukraine", *Politics,* Internet: http://qha.com.ua/en/politics/crimen-parliament-declares-its-independence-from-ukraine/130814/ (accessed in date25 April 2017).

- Crozet M., Hinz J. (2016), "Friendly Fire: The Trade Impact of the Russia Sanctions and Counter-Sanctions", *Kiel Working Paper No. 2059*, November: Kiel Institute for the World Economy.

- Dickel R., Hassanzadeh E., Henderson J., Honoré A., El-Katiri L., Pirani S., Rogers H., Stern J., Yafimava K. (2014), "Reducing European Dependence on Russian Gas: Distinguishing Natural Gas Security from Geopolitics", *OIES Paper*: NG 92, October: The Oxford Institute for Energy Studies.

- Dominelli C. (2017), "Dal South Stream al TAP: le Vie del Gas tra Progetti Falliti e Nuove Rotte", in *Il Sole-24 Ore, 10 May*, Internet.

- Donaldson R., Nogee, J. (2009), *The Foreign Policy of Russia. Changing Systems, Enduring Interests,* London: M.E. Sharpe.

- Dutkiewicz P., Sakwa R. (2014), *Eurasian Integration – The View from Within*, Abingdon: Routledge.

- DW (2013), "Russia Makes $15 billion, Gas Discount Commitments to Ukraine", Internet: http://www.dw.com/en/russia-makes-15-billion-gas-discount-commitments-to-ukraine/a-17303930 (accessed in date 09 May 2017).

- EFTA (2017), "European Economic Area Agreement", *EEA Agreement*, Internet: http://www.efta.int/eea/eea- agreement (accessed in date 26 May 2017).

- EIA (2014), "Oil and Natural Gas Sales Accounted for 68% of Russia's Total Export Revenues in 2013", *EIA Today In Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 17 May 2017).

- EIA (2017), "Russia", *EIA* Beta. Internet: https://www.eia.gov/beta/international/analysis.cfm?iso=RUS (accessed in date 29 May 2017).

- EIA (2014), "Oil and natural gas sales accounted for 68% of Russia's total export revenues in 2013", *Today in Energy*, Internet: https://www.eia.gov/todayinenergy/detail.php?id=17231 (accessed in date 08 June 2017)

- EIA (2014), "16% of Natural Gas Consumed in Europe Flows through Ukraine", *Today in Energy,* Internet: https://www.eia.gov/todayinenergy/detail.php?id=15411 (accessed in date 01 March 2017).

- Euractiv (2009), "Putin and Berlusconi Seal 'South Stream' Pipeline Deal", *Med & South,* Internet: http://www.euractiv.com/section/med-south/news/putin-and-berlusconi-seal-south-stream-pipeline-deal/ (accessed in date 06 May 2017).

- European Commission (2011), "EU-Russia Gas Advisory Council – Rules of Procedures", Internet:https://ec.europa.eu/energy/sites/ener/files/documents/2011_10_18_rules_of_procedure_final.pdf (accessed in date 16 April2017).

- European Commission (2013), "EU-Russia Energy Cooperation until 2050", Internet: https://ec.europa.eu/energy/sites/ener/files/documents/2013_03_eu_russia_roadmap_2050_signed.pdf (accessed in date 16 April 2017).

- European Commission (2014)*, European Energy Security Strategy,* Communication from the Commission to the European Parliament and the Council, May, Brussels.

- European Commission (2014), "The European Union and Russia: Close Neighbors, Global Players, Strategic Partners", *European Commission External Relations,* Internet: https://eeas.europa.eu/sites/eeas/files/eu_russia_en.pdf (accessed in date 10 April 2017).

- European Commission (2014), *A Policy Framework for Climate and Energy in the Period from 2020 - 2030* ,Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, January, Brussels.

- European Commission (2014), *European Energy Security Strategy*, Communication from the Commission to the European Parliament and the Council, May, Brussels.

- European Commission (2014), *In-depth Study of European Energy Security*, Commission Staff Working Document, August, Brussels.

- European Commission (2014), *Report on the Implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU,* Commission Staff Working Document, October, Brussels.

- European Commission (2015), "Antitrust: Commission sends Statement of Objections to Gazprom for alleged abuse of dominance on Central and Eastern European gas supply markets", *European Commission Press Release Database*.

- European Commission (2004), *EU/Russia: The Four "Common Spaces*, Press Release Database, MEMO/04/268, 23 Nov., Brussels.

- European Commission (2015), "Energy Union Factsheet", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_MEMO-15-4485_en.htm (accessed in date 07 April 2017).

- European Commission (2015), *A framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy,* Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment, February, Brussels.

- European Commission (2015), *State of the Energy Union 2015,* Commission Staff Working Document on the European Energy Security Strategy, November, Brussels.

- European Commission (2016), "Clean Energy for All Europeans – Unlocking Europe's Growth Potential", *European Commission Press Release Database,* Internet: http://europa.eu/rapid/press-release_IP-16-4009_en.htm (accessed in date 07 April 2017).

- European Commission (2016), "EU Energy in Figures", *Statistical Pocketbook 2016*, Internet: https://ec.europa.eu/energy/sites/ener/files/documents/pocketbook_energy-2016_web-final_final.pdf (accessed in 27 May 2017)

- European Commission (2016), "EU Reference Scenario 2016: Energy, Transport and GHG Emissions. Trends to 2050, Main Results", *EU Reference Scenario,* July, Brussels.

- European Commission (2016), "The EU Emission Trading System (EU ETS)", *European Commission Climate Action*, Internet: https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf (accessed in date 19 April 2017)

- European Commission (2016), *Liquefied Natural Gas and gas storage will boost EU's energy security*, European Commission – Fact Sheet, 16 February, Brussels.

- European Commission (2017), "2050 Energy Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy (accessed in date 13 May 2017)

- European Commission (2017), "Countries and Regions: Algeria", *European Commission Trade,* Internet: http://ec.europa.eu/trade/policy/countries-and-regions/countries/algeria/ (accessed in date 27 May 2017).

- European Commission (2017), "Eastern Partnership", *European Neighborhood Policy and Enlargement Negotiations*, Internet: https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/eastern-partnership_en (accessed in date 08 May 2017).

- European Commission (2017), "Energy Security Strategy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/energy-security-strategy (accessed in date 26 March 2017).

- European Commission (2017), "Imports and Secure Supplies", *European Commission Strategy,* Internet: https://ec.europa.eu/energy/en/topics/imports-and-secure-supplies (accessed in date 27 May 2017).

- European Commission (2017), "Market Legislation", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation (accessed in date 05 April 2017)

- European Commission (2017), "Norway", *European Commission* Energy, Internet: https://ec.europa.eu/energy/en/norway (accessed in date 26 May 2017).

- European Commission (2017), "Progress Reports", *European Commission Energy,* Internet: http://ec.europa.eu/energy/node/70 (accessed in date 05 April 2017).
- European Commission (2017), "Russia", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/international-cooperation/russia (accessed in date 15 April 2017).

- European Commission (2017), "Single Market Progress Report", *European Commission Energy,* Internet: http://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report (accessed in date 05 April 2017)

- European Commission (2017), "Trans-European Networks for Energy", *European Commission Energy,* Internet: https://ec.europa.eu/energy/en/topics/infrastructure/trans-european-networks-energy (accessed in date 23 March 2017).

- European Union External Action (2017), "Eastern Partnership", Internet: https://eeas.europa.eu/topics/eastern- partnership_en (accessed in date 05 May 2017)

- Eurostat (2016) "Energy Production and Imports", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports (accessed in date 04 April 2017).

- Eurostat (2016), "Europe 2020 Indicators – Climate Change and Energy", *Eurostat Statistics Explained*, Internet: http://ec.europa.eu/eurostat/statisticsexplained/index.php/Europe_2020_indicatorsclimate_change_and_energy#Main_tables (accessed in date 05 April 2017).

- Felgenhauer T. (1999), "Ukraine, Russia, and the Black Sea Fleet Accords", *WWS Case Study 2/99*, Princeton, Princeton University.

- Filho L. W., Voudouris V. (2013), *Global Energy Policy and Security*, Londra: Springer.

- Frappi C., Rossetto N. (2016), "Sicurezza Energetica", *Osservatorio Di Politica Internazionale* N.27, July, Milano: ISPI.

- Frass-Ehrfeld C. (2009), *Renewable Energy Sources: a Chance to Combat Climate Change*, Netherlands: Wolters Kluwer.

- Friedman B.H., Logan J. (2009), "Hitting the 'Stop' Button on NATO Expansion", *IA Forum NATO at 60 Spring*

- Gazprom (2017), "Construction of TurkishStream Gas Pipeline's Offshore Section Commenced", *Gazprom News,* Internet: http://www.gazprom.com/press/news/2017/may/article329932/ (accessed in date 17 May 2017).

- Gazprom (2017), "Nord Stream 2", *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/nord-stream2/ (accessed in date 25 April 2017).

- Gazprom (2017), "Power of Siberia" *Gas* Pipelines, Internet: http://www.gazprom.com/about/production/projects/pipelines/built/ykv/ (accessed in date 25 April 2017).

- Georgia Today (2017), "Georgia Marks 10th Anniversary of NATO Days This Week", Internet: http://georgiatoday.ge/news/6231/Georgia-Marks-10th-Anniversary-of-NATO-Days-This-Week (accessed in date 13/05/2017).

- Giusti S. (2013), "Russia's Foreign Policy for the Country's Stability", *Istituto per gli Studi di Politica Internazionale (ISPI) No. 165, April, ISPI.*

- Giordano A. (2009). *Relazioni UE-Russia, energia e politica internazionale*, in Europae – Quadrimestrale di Affari Europei, n. 2, pp. 61-75. Soveria Mannelli: Rubbettino Editore

- Giordano A., Hryniewiecki R., (2013), "The Geopolitical Implications of the New Developments on Global Energy Markets: The Major Energy Actors Case", in "Journal Of Global Policy and Governance". July, Vol. 2, Issue 1, pp.45-58. Heidelberg-New York: Springer.

- Goldthau A, Hoxtell W. (2012), "The Impact of Shale Gas on European Energy Security", *GPPi Policy Paper No 14,* February, Brussels: European Commission.

- Gradziuk A., Wyciszkiewicz E. (2009), *Energy Security and Climate Change: Double Challenge for Policy Makers,*Warsaw: The Polish Institute of International Affairs.

- Harding L. (2009), "Barack Obama Calls for 'Reset' in US-Russia Relations", in *The Guardian*, 7 July.

- Henderson J. (2014), "The Commercial and Political Logic for the Altai Pipeline", *Oxford Energy Comment,* December: The Oxford Institute for Energy Studies.

- Huntington S. P. (1997*): The Clash of Civilizations and the Remarking of World of Order*, New York: Touchstone

- IEA (2015), "Medium-Term Market Report 2015", *Market Analysis and Forecasts to 2020,* Internet: https://www.iea.org/publications/freepublications/publication/MediumTermGasMarketReport2015.pdf (accessed in date 20 March 2017).

- IEA (2015), "World Energy Outlook",

- IEA (2017), "What is energy security?", Internet: https://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/ (accessed in date 02 March 2017).

- International Gas Union (2016), "2016 World LNG Report", *LNG 18 Conference & Exhibition Edition.*

- Jewell J. (2011), "The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels", *Working Paper,* OECD/IEA.

- Kalb M. (2015), *Imperial Gamble: Putin, Ukraine and the New Cold War*, The Brookings Institute: Washington D.C.

- Kamilla M. (2015), *Russia and European Energy Security: Outcomes of the Nabucco, South Stream and Turkish Stream Projects,* Helsinki: Helsinki Metropolia University of Applied Sciences.

- Kirch A., Kirch M., Tuisk T. (1993), "Russians in the Baltic States: to Be or not to Be", *Journal of the Baltic States Vol. 24 No. 2,* Summer, Taylors & Francis, Ltd.

- Klimas A. (1993), "Ethnic Tensions in the Baltic", *Lithuanian Quarterly Journal of Arts and Sciences Vol. 39 No. 1,* Spring, Rochester, University of Rochester.

- Kramer A.E. (2006), "Russia Cuts Off Gas to Ukraine in Cost Dispute", in *The New York Times*, 2 January

- Lieven A. (2011), "The Cold War and the Post Cold War World", in *Russia in Global Affairs,* 29 December

- Lithuanian Presidency of the Council of the European Union (2013), "Joint Declaration of the Eastern Partnership Summit, Vilnius, 28-29 November 2013", *Archives*, Internet: http://www.eu2013.lt/en/news/statements/-joint- declaration-of-the- eastern-partnership-summit-vilnius-28-29-november-2013 (accessed in date 08 May 2017).

- Lo. Bobo (2008), *Vladimir Putin and the Evolution of Russian Foreign Policy,* London: The Chatman House Papers .

- Mabro R. (1998), "The Oil Price Crises of 1998", *SP 10*, October, Oxford: Oxford Institute for Energy Studies.

- Macalister T. (2008), "Russia-Ukraine Crisis: Kiev Inches Towards Deal with Gazprom", in *The Guardian,* 30 December.

- Makarova N. (2008), "Gazprom: Gas Giant Under Strain", *Working Paper No.71,* January, Stanford: Freeman Spogli Institute for International Studies.

- Maltby T., Sharples J. (2016), "Challenging Reductionism in Analyses of EU-Russia Energy Relations", *GEOPOLITICS Vol 21. No. 4,* Routledge Taylor & Francis Group.

- Mamlyuk B. N. (2015):"The Ukraine Crisis, Cold War II, and International Law", *SSRN No.3*: The German Law Journal.

- Manzano B, Rey L. (2012), "The Welfare Cost of Energy Insecurity", *WP FA*, July, Alcoa Foundation.

- Mazneva E. (2015), "Gazprom Said to See Its Lowest Europe Gas Price in 11 Years", in *Bloomberg*, Internet: http://bloom.bg/1R09c05 (accessed in date 25 May 2017).

- Mearsheimer J.J, (2014), "Why the Ukrainian Crisis Is the West's Fault", in *Foreign Affairs,* September/October Issues.

- Mulder M, Cate A, Zwart G. (2007), "The Economics of Promoting Security of Energy Supply", *EIB Papers Vol. 12 N. 2,* Luxembourg: European Investment Bank.

- NATO (2005),"NATO Launches 'Intensified Dialogue' with Ukraine", Internet: http://www.nato.int/docu/update/2005/04-april/e0421b.htm (accessed in date 12 March 2017).

- Neuman M. (2008), *Energy as the Defining Component in EU-Russian Relations after the Eastern EU Enlargement*, Groningen: University of Groningen.

- Nord Stream 2 (2017), "Shareholder and Financial Investors", Internet: https://www.nordstream2.com/company/shareholder-and-financial-investors/#omv (accessed in date 27 May 2017).

- Norskpetroleum (2017), "Exports of Oil and Gas", *Oil Pipeline in the Norwegian Shelf,* Internet: http://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/ (accessed in date 26 May 2017).

- Olearchyk R, Belton C. (2008), "Kiev and Gazprom end standoff", in *Financial Times*, 6 March.

- Oliver G., Marcelis C., Maurer A. (2006), "Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France*"*, *Berlin:Stiftung Wissenschaft und Politik*, 17 Dec.

- Olsson P., Oxentstierna S. (2015*),* "The Economic Sanctions Against Russia: Impact and Prospects for Success", *FOI-R-4097-SE,* September: FOI.

- OPEC (2004), "Oil and Gas: the Engine of the World Economy", *Speeches 2004*, Internet: http://www.opec.org/opec_web/en/900.htm (accessed in date 20 May 2017).

- Parfitt T. (2009), «Ukraine Accused of Stealing Russian Gas as Fuel Flow Declines», in *The Guardian,* 3 January Independent (2006), "A Whiff of Dangerous and Unstable New World", Internet: http://www.independent.co.uk/voices/editorials/leading-article-a-whiff-of-a-dangerous-and-unstable-new-world- 6112794.html (accessed in date 02 May 2017).

- Parker A., Davenport C. (2016), "Donald Trump's Energy Plan: More Fossil Fuels and Fewer Rules", in *The New York Times*, Internet: https://www.nytimes.com/2016/05/27/us/politics/donald-trump-global-warming-energy-policy.html?_r=0 (accessed in date 29 May 2017).

- Pick L. (2012), "EU-Russia Energy Relations: a Critical Analyses", *POLIS Journal Vol. 7,*Summer, Leeds: University of Leeds.

- Pirani S. (2007), *Ukraine's Gas Sector,* Oxford: The Oxford Institute for Energy Studies
- Pirani S. (2017), "Adversity and Reform: Ukrainian Gas Market Prospects", *Energy Insight No.7,* March: The Oxford Institute of Energy Studies.
- Pirani S., Stern J., Yafimava K. (2009), "The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment", *Working Paper NG No.27,* January: The Oxford Institute for Energy Studies.
- Pirani S., Yafimava K. (2016), "Russian Gas Transit Across Ukraine Post-2019: Pipeline Scenarios, Gas Flow Consequences, and Regulatory Constraints", *OIES Paper: NG105*, February: The Oxford Institute for Energy Studies.
- Proedrou F. (2016), *EU Energy Security in the Gas Sector: Evolving Dynamics, Policy Dilemmas and Prospects,* New York: Routledge.
- Ruiz González F. J. (2013):"The Foreign Policy Concept of the Russian Federation: A Comparative Study", *Framework Document 03, April*: Instituto Espanol de Estudios Estratégicos.
- Russian Ministry of Energy (2010), "Energy Strategy of Russia for the Period up to 2030", *Energy Policy*, November: Moscow.
- Rustokcs (2005),"Gazprom and Naftogaz Ukrainy settle 7.8 bcm of Russian gas in Ukrainian UGS facilities problem",Internet: http://www.rustocks.com/index.phtml/pressreleases/0/46/7822?filter=2005 (accessed in date 19 April 2017).
- Sakwa R. (2009), *Power and Policy in Putin's Russia,* Glasgow: Routledge Europe-Asia Studies Series.
- Samofalova O. (2017), "Food Import Substitution Turns Out to Be Extremely Profitable", in *Russia Beyond The Headlines,* 9 February.
- Shakleina T.A. (2013), "New Trends in Subsystems Formation in the 21st Century" *Comparative Politics 3/13* Moscow: Сравителная Политика и Геополитика.
- Smith K.C. (2004), *Russian Energy Politics in the Baltics, Poland, and Ukraine: a New Stealth Imperialism?,* Washington D.C., CISIS.
- Stern J. (2006), "The Russian-Ukrainian Gas Crises of January 2006", *Working Paper,* January: The Oxford Institute for Energy Studies
- Stern J.P. (2005), *The Future of Russian Gas and Gazprom,* Oxford: The Oxford Institute for Energy Studies
- Svedentsov V. (2015), "The Eurasian Economic Union and the Silk Road Economic Belt – prospects for cooperation", in *Russian Institute for Strategic Studies,* 27 October.

- Talseth L. U. (2012), "The EU-Russia Energy Dialogue: Travelling Without Moving", *German Institute for International and Security Affairs,Working Paper FG5, Berlin, SWP Berlin.*

- The International Energy Charter (2016), "*Consolidated Energy Charter Treaty*", Internet: http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/ECT-Positive_Annex_W.pdf (accessed in date 25 March 2017).

- The Parliament Magazine (2016), "EU-Algeria Relations: Reinforcing our Energy Partnership", Internet: https://www.theparliamentmagazine.eu/articles/feature/eu-algeria-relations-reinforcing-our-energy-partnership (accessed in date 27 May 2017).

- The World Bank (2015), "Inflation, GDP deflator (annual %)", *The World Bank IBRD-IDA*, Internet: http://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG (accessed in date 17 May, 2017).

- The World Bank (2017), "GDP Growth (annual %)", *The World Bank IBRD-IDA*, Internet: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG (accessed in date 08 June 2017)

- Tsukarev T., Vinkorub E. (2015),"Agenda for the EEU Economy", in *Russian in Global Affairs,* 28 October.

- United Nations (2015), "UN Climate Change Conference Paris 2015", *Sustainable Development Goals*, Internet: http://www.un.org/sustainabledevelopment/cop21/ (accessed in date 02 April 2017).

- United Nations (1993*), Charter of the Commonwealth of Independent States (with declaration and decisions),* January, Minsk.

- UpStream (2014), "EU Calls for South Stream Suspension", Internet: http://www.upstreamonline.com/live/1157072/eu-calls-for-south-stream-suspension (accessed in date 28 May 2017).

- US Department of State (2001), *Remarks at the State Department Correspondents Association's Inaugural Newsmaker Breakfast,* Archive, January: Washington D.C.

- Verda M. (2015), "Libia: il Ruolo delle Esportazioni Energetiche e l'Importanza per l'Italia", Internet: http://www.sicurezzaenergetica.it/2015/09/libia-il-ruolo-delle-esportazioni-energetiche-e-limportanza-per-litalia/ (accessed in date 22 May 2017).

- Vorobyov V. (2012)," The SCO as a Rising Master of the Heartland", in *Russia in Global Affairs,* 25 March.

- Walker E.W. (2015), "Between East & West: NATO Enlargement & the Geopolitics of the Ukraine Crisis", *E-International Relations,* Internet: Internet: https://www.theguardian.com/world/2013/dec/17/ukraine-russia-leaders-talks-kremlin-loan-deal (accessed in date 12 May 2017).

- Walker S. (2013)"Vladimir Putin Offers Ukraine Financial Incentives to Stick with Russia", in *The Guardian*, Internet: https://www.theguardian.com/world/2013/dec/17/ukraine-russia-leaders-talks-kremlin-loan-deal (accessed in date 12 May 2017).

- Wieclawski J. (2011), "Contemporary Realism and the Foreign Policy of the Russian Federation", *International Journal of Business and Social Science Vol. 2 No.1,* Warsaw: Lazarski Univeristy.

- World Affairs Journal (2015), "G7 Summit Ready to Convene again without Russia", *World News,* Internet: http://www.worldaffairsjournal.org/content/russia-excluded-g7-conference-second-time (accessed in date 26 April 2017).

- World Energy Council (2013), *World Energy Resources: 2013 Survey*, England and Wales: World Energy Council.

- World Energy Council (2016*), "*World Energy Trilemma Index – 2016: Benchmarking the Sustainability of National Energy System*",* Internet: https://www.worldenergy.org/publications/2016/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems/ (accessed in date 15 March 2017).

- Yefremenko D. (2010), "Forced or Desired Modernity? Russia's Chances in the Post-American world", in *Russia in Global Affairs,* 15 October